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BRITISH MEDICAL JOURNAL

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SATURDAY SEPTEMBER 30 1961

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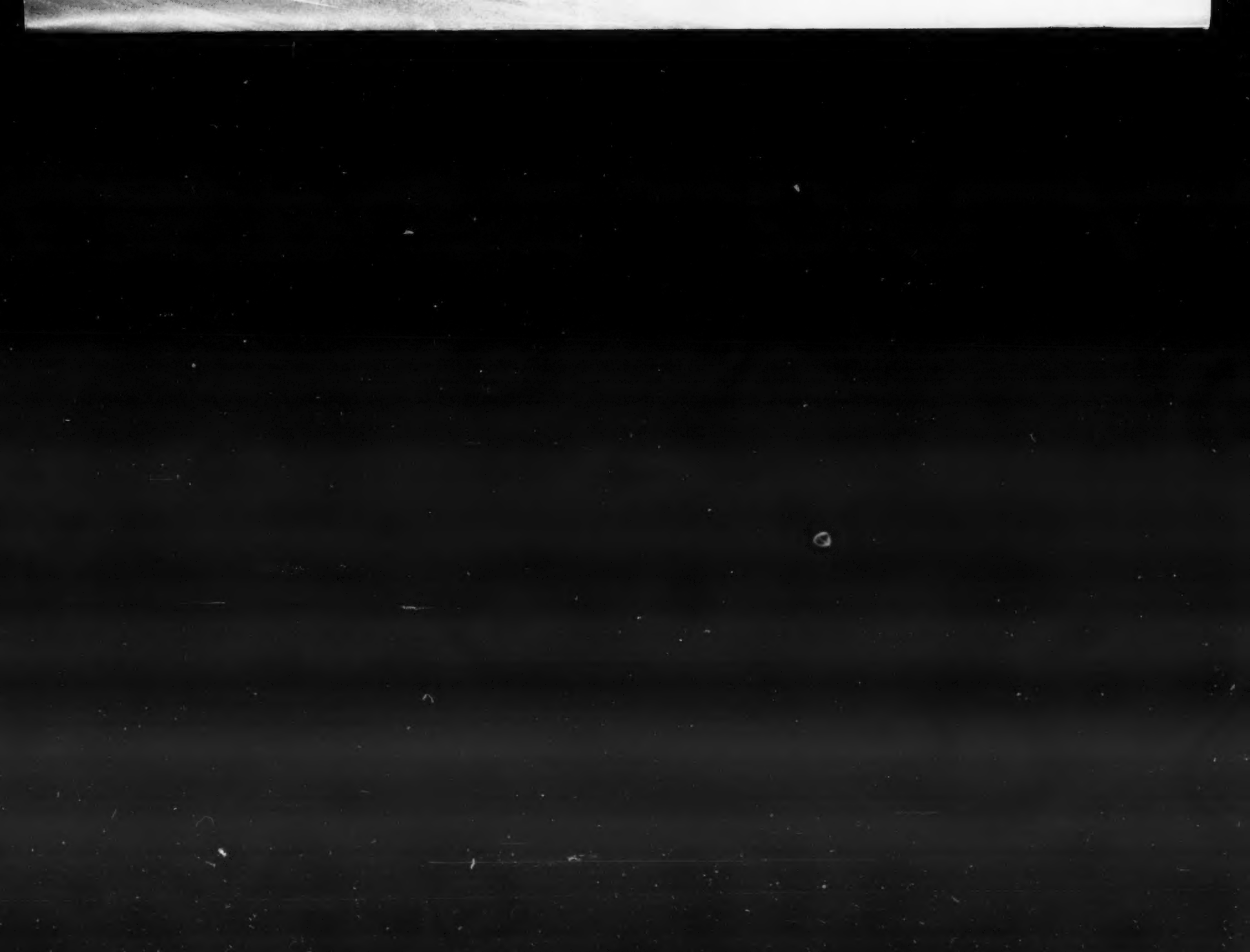

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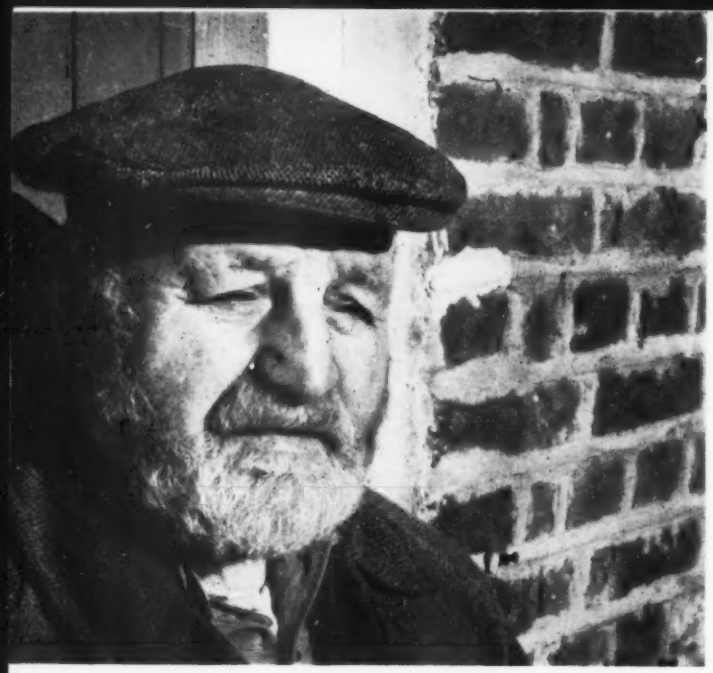

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"Bowel Motility," Geriatrics, 1961, **16**, 189.

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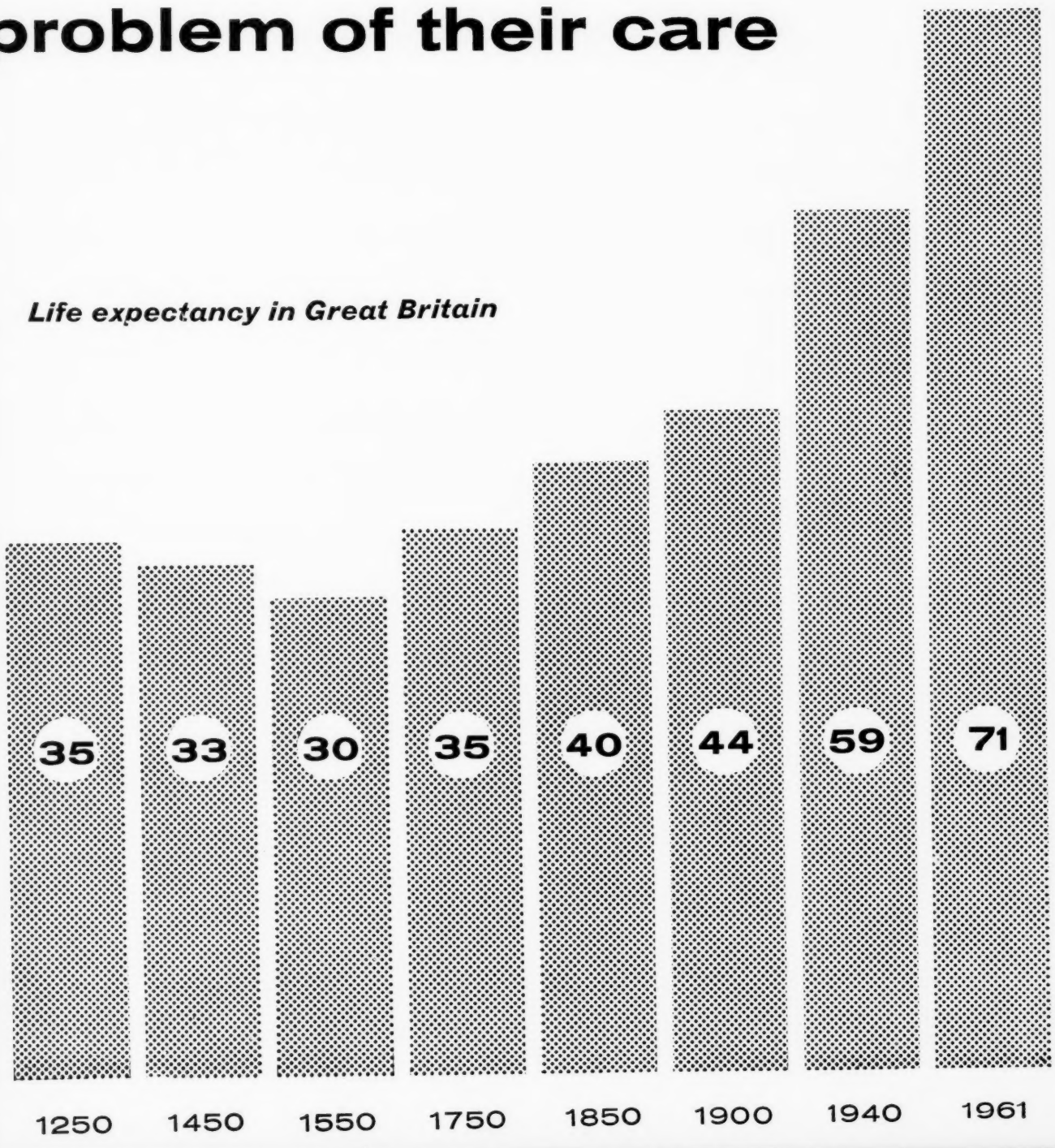

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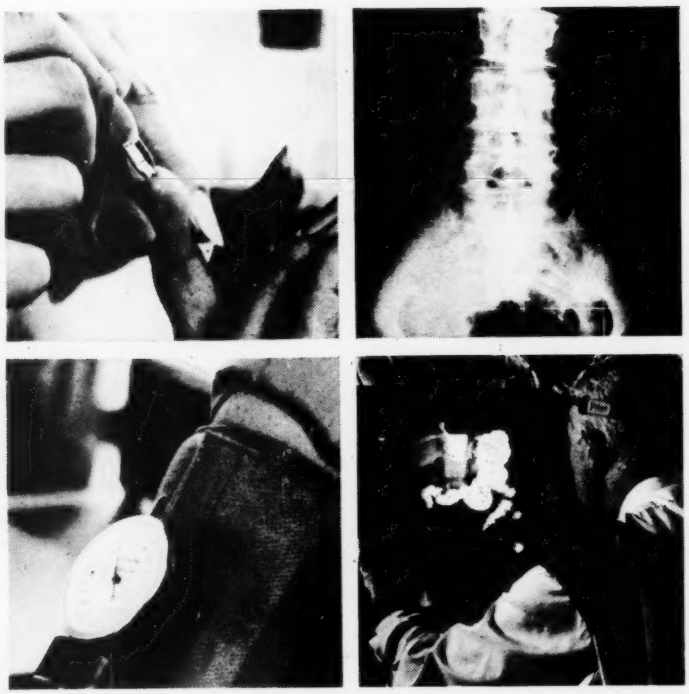

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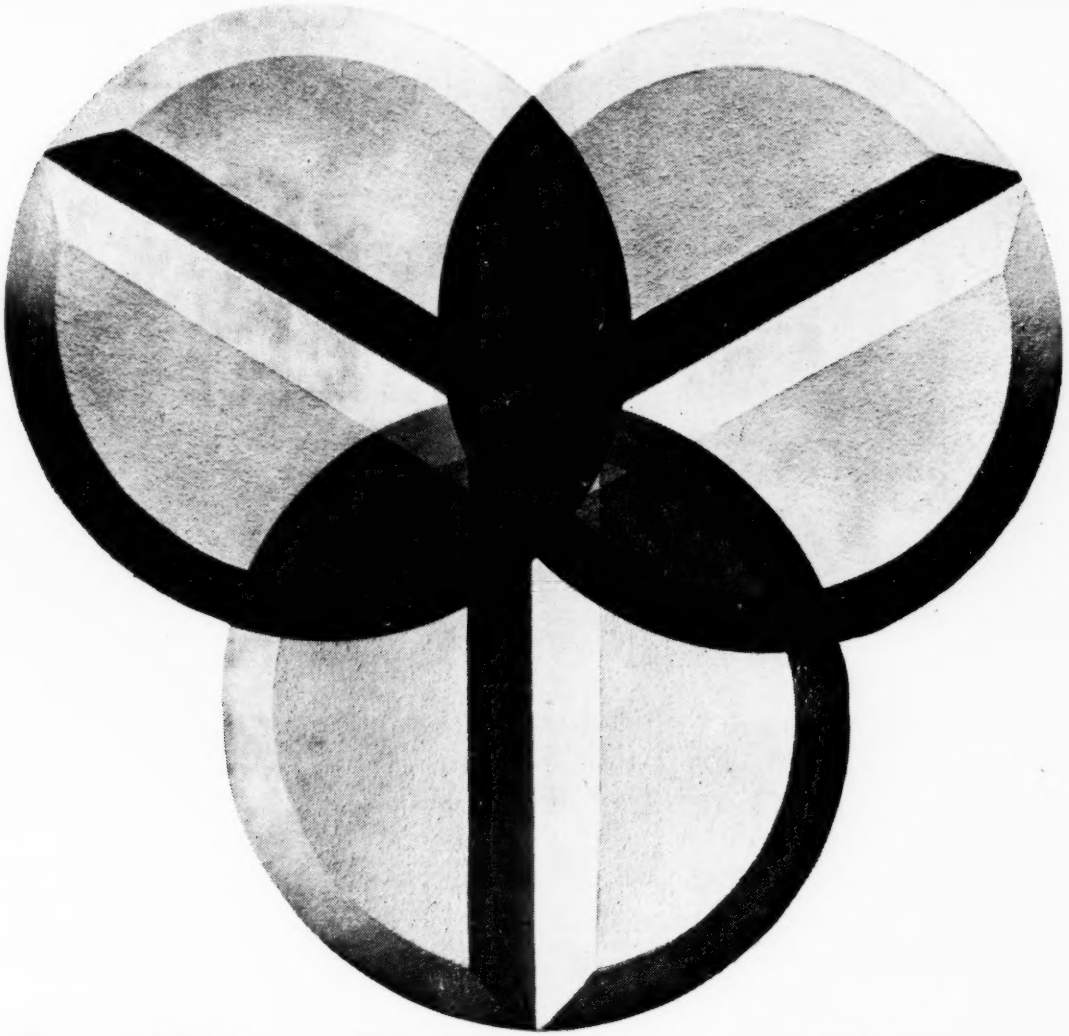

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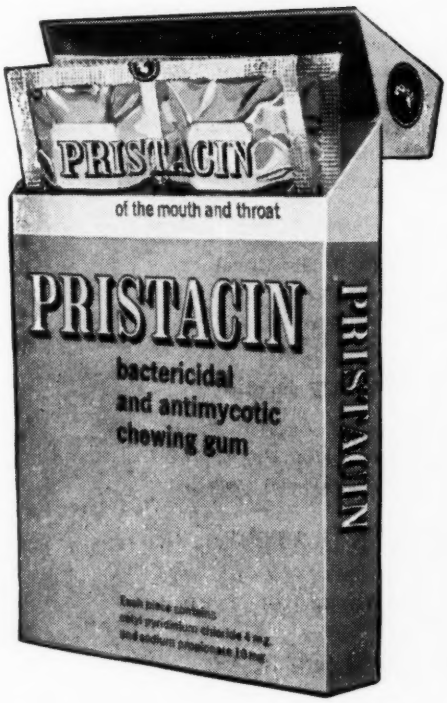

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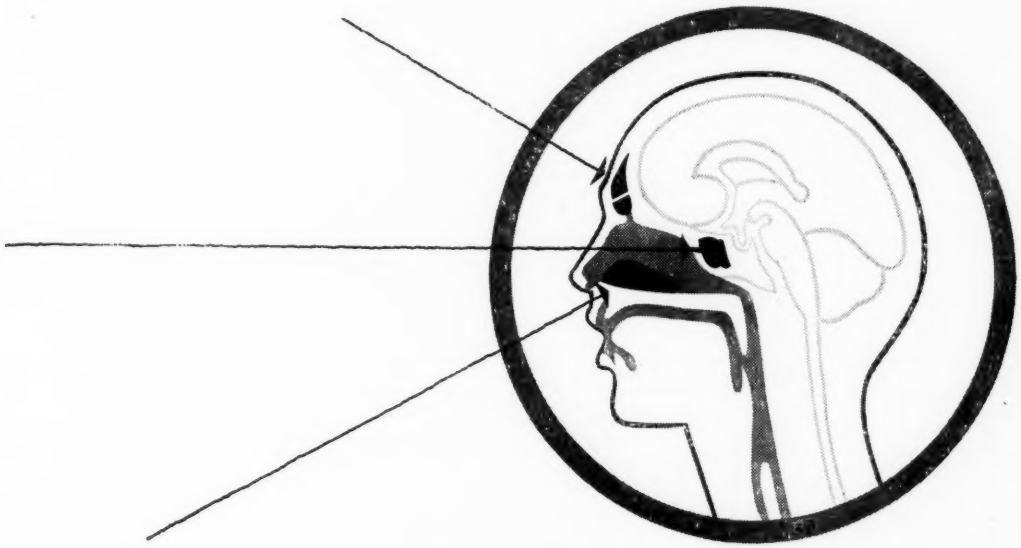

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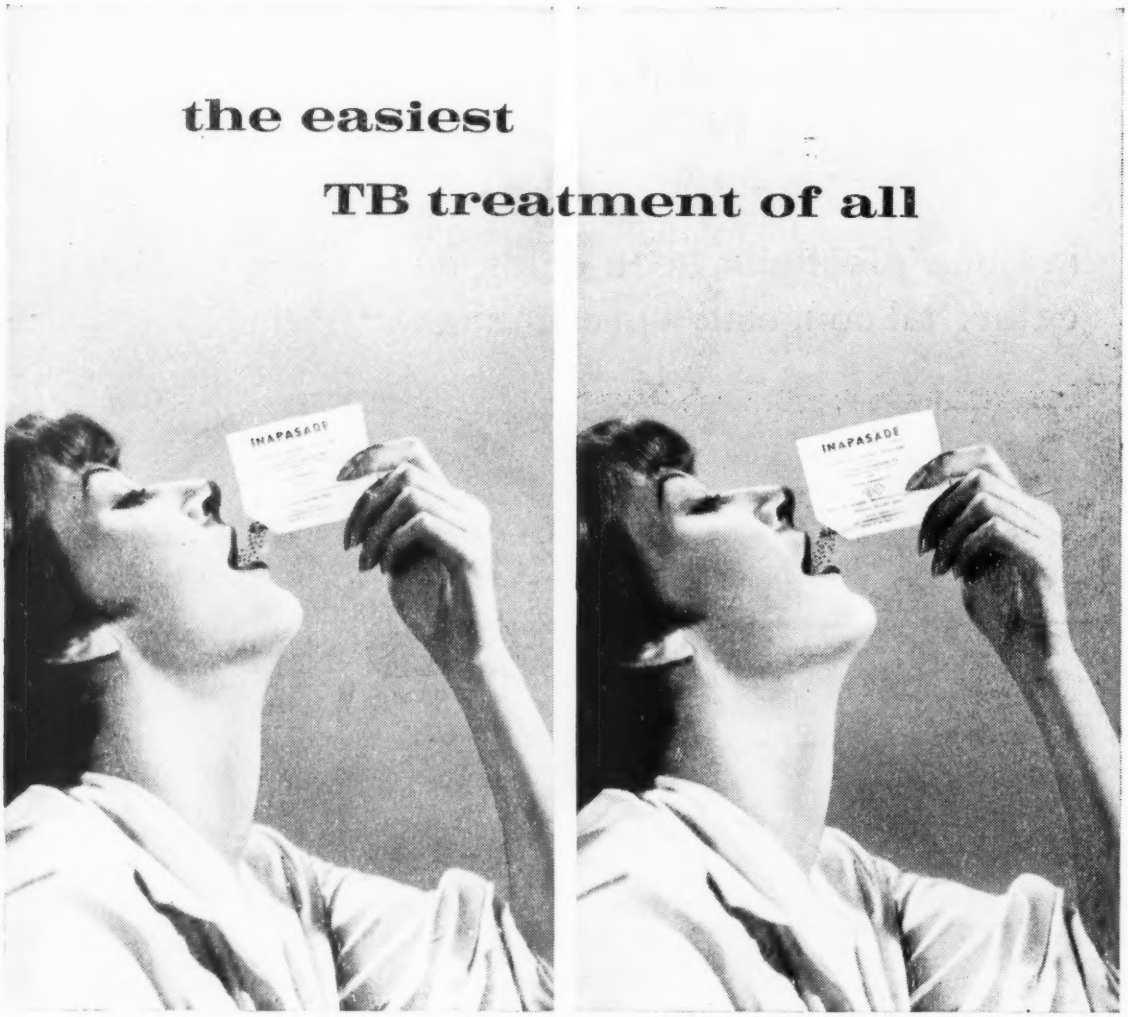

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BRITISH MEDICAL JOURNAL

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TRENDS IN SPECIALIZATION AND THEIR EFFECT ON THE PRACTICE OF MEDICINE*

BY

G. E. GODBER, C.B., D.M., F.R.C.P.

Chief Medical Officer, Ministry of Health

It is not uncommon to hear comment upon the increasingly rapid scientific developments in medicine during the last two decades. This is often accompanied by reference to the increasing extent of specialization within medicine, sometimes with laments about the slow progress in some special fields. But often one hears criticism of the narrowness of specialization which leads to the patient being regarded less as a person than as a vehicle for a disease. Paradoxically, one may find the same individual decrying the disappearance of the general physician or surgeon and criticizing the limited opportunity for the evolution of some particular subject in medicine or surgery. I do not want to enter into a philosophical battle of this kind without first putting forward some facts about the changes which have occurred in England and Wales during the last ten years, because it is only during these last ten years that we have figures that make any pretence of an accuracy upon which we can base our conclusions.

Effect of National Health Service

The first major change in the nature and quality of service brought about by the National Health Service was in the hospitals. Before 1948 there had been a steady movement away from general-practitioner staffing of acute hospitals, outside the teaching centres, toward the appointment of fully trained specialist staffs. When the National Health Service is blamed for ejecting general practitioners from hospitals it is sometimes forgotten that the policy of the British Hospitals Association in the decade before the National Health Service was to introduce paid specialist service in hospitals. Immediately after the war, the E.M.S. framework was used to help this to some extent. The National Health Service gave the first opportunity of planning and financing development on the regional basis which, alone, is likely to give a satisfactory functional result. We have not precise figures about doctors in the N.H.S. in 1948, but it would be a reasonable estimate that in England and Wales there were little more than 4,500 consultants in hospital and about 16,500 general practitioners—that is, just over 1 to 4. By the middle of 1960 the number of consultants had grown to 7,000-odd and of general practitioners to just under 20,000, a ratio of more than 1 to 3 and an increase of about 50% in consultants. Over the whole group of consultants, therefore, there had been a much greater proportionate increase than in the number of principals in general practice, and this in itself demonstrates the swing toward specialization in the Health Service. When the figures of individual specialties are examined the change is seen to be even more striking. We do not have an accurate breakdown of the numbers of consultants in different specialties in 1948. The first reasonably reliable figures date from the end of 1949. At that time the number of consultants in general medicine was 642. In the next ten years that number rose to 868, an increase of 20%. In general surgery the comparable figures were 792 and 864, an increase of 9%; but the figures for general medicine are obscured by the fact that cardiology and geriatrics are included and may well have accounted for nearly half of the increase. By comparison most of the smaller specialties increased to a much greater extent. If we take medical and surgical neurology together there were 80 consultants in 1949 and 137 ten years later, an increase of more than two-thirds. In plastic surgery the increase was from 27 to 56, and in thoracic surgery from 44 to 91, each more than doubled; but the really large numerical increases in consultants during this ten-year period were in the specialties of anaesthetics, 459 to 795; radiology, 295 to 463; pathology, 454 to 693; and psychiatry, 405 to 648—together over a third of the total increase in consultants. Moreover, the numbers have risen so rapidly in these last three specialties that competition for posts has been slight and too many aspirants are reaching consultant status before the normal period of training has been completed. The 86 consultants aged 34 or less at the end of 1960 included only 24 outside these specialties.

Expressed in terms of percentages of the whole body of consultants, Table A of Appendix 3 in the Platt Working Party Report shows that general medicine and general surgery between them provided 27.6% of the consultants at the end of 1952, but only 25.6% at the end of 1959, whereas psychiatry had increased in that period from 8.2 to 9.2%, anaesthetics from 10.4 to 11.0%, radiology from 6.0 to 6.6%, and pathology from 8.5 to 9.9%. Taking the medical specialties as a whole, excluding these last four, the increase in consultants between 1952 and 1959 was 11.2%, in the surgical specialties it was 5.8%, and in obstetrics and gynaecology 7.6%, whereas the range in the four specialties named was from 21.7 to 27.9%, so that the increase has continued after the period of early expansion and

*The final postgraduate lecture of the year, delivered in June, 1961, at St. Andrews University Medical School.

through the time when the total establishments have been strictly controlled and an order of priority maintained.

Three of the specialties that show not only a large proportionate increase—which has continued after the initial period of rapid increase in consultant staffs and still cannot be satisfied—are diagnostic or treatment rather than clinical departments with charge of patients, and the remaining instance, psychiatry, presents a special problem of its own. The diagnostic and treatment departments have had to respond to increased pressure for assistance from all the clinical departments and, quite aside from their own technical advances, would therefore naturally reflect the greatest demand.

Distribution of Work

It is worth examining the changes that have taken place in the work done. Although this is not simply a matter of in-patient work, the numbers of admissions to beds in different specialties do perhaps reflect with reasonable accuracy the changes that have occurred.

Between 1949 and 1959 there was an increase in total admissions (for simplicity's sake I shall use the word admissions rather than the more accurate description of discharges and deaths) from 2.85 millions to 4 millions —that is, an overall increase of 40%. The increase in admissions for general medicine in this period was from 401,000 to 532,000 and in general surgery from 664,000 to 842,000—32% and 18% respectively. By comparison neurology and neurosurgery increased from 17,000 to 35,000; plastic surgery from 11,000 to 27,000; thoracic surgery from 10,000 to 26,000; traumatic and orthopaedic surgery from 133,000 to 254,000. The older specialties of ophthalmology and ear-nose-and-throat surgery have shown relatively little growth in consultant staffs, and although ophthalmology admissions increased from 68,000 to 95,000 those in ear, nose, and throat actually fell from 319,000 to 292,000. Some of the other specialties, particularly infectious disease and venereology, have shown a reduction in work done and in staff, while in diseases of the chest it has been the development of work with non-tuberculous lung disease which has led to some continued increase in activity.

These figures confirm two trends which are, of course, common experience—that medical and surgical work both call for more scientific aids to diagnosis and control of treatment and to the separation into a special department of some work which may formerly have been included in general medicine and general surgery. For instance, urology, which was not classified separately in 1949, had by 1959 29,000 admissions to special departments. On the other hand, gynaecology has shown an increase comparable with that in traumatic and orthopaedic surgery, from 178,000 to 295,000, here perhaps reflecting the emergence of a hidden need for treatment which existed before the Health Service provided readily available medical care to the mothers of less well-to-do families.

The experience of out-patient departments is somewhat different. In general medicine the number of new out-patients actually declined from 630,000 to 617,000 and in general surgery from 960,000 to 913,000, while traumatic and orthopaedic surgery increased from 643,000 in 1949 to 1,009,000 in 1959, the largest of all out-patient services.

Development of the specialties has not been uniform, as is well shown by Brinton's account of the growth of the specialty of neurology. Two-thirds of all neurologists work in the metropolitan regions, where less than a quarter of the population live; only two of the provincial regions have a comparable regional service. Physical medicine has hardly achieved acceptance at all in several hospital regions, and there are also regions with no department of urology. The advance of thoracic surgery has stimulated the development of cardiology in several regional centres, but paediatric surgery is recognized in only a minority of teaching centres. Yet the results of specialization in the management of neonatal surgery are manifest wherever a special centre has been established. Paradoxically, geriatrics has emerged to general recognition as a specialty, and yet it amounts to no more than the application of the methods of general medicine at the slower tempo appropriate to old age and with due regard to social needs. The reports of the Royal College of Physicians on cardiology and neurology emphasize the need for development of sufficient regional units, but there is strong resistance in many places to the surrender of even part of this work to a special department. Rheumatology has not even achieved as many research and special reference centres as are needed, nor sufficient treatment facilities for this much-neglected group of disorders. Paediatrics as a specialty has now emerged in most hospital centres, but not enough has been done to group all children's beds so that the paediatrician can play a part in the care of all children in hospital. Even so clearly advantageous a measure as concentration for their confinements of all women whose babies may have haemolytic disease of the newborn, in units with special facilities for exchange transfusion, is not yet achieved everywhere.

A reasonable balance between the specialties and general medicine and surgery must be maintained, but there is still plenty of room for increases in special departments.

New Specialties and Techniques

There are also some emerging special subjects which will carry subdivision even further. The radiology and pathology of the nervous system have become so specialized that a specially trained man in each specialty is a necessity at any neurosurgical centre. Chemical pathology has evolved so fast that a special training scheme cannot yet produce enough consultants nor will it for some years to come. Some of the new assessment techniques in clinical physiology and the application of new electronic methods to medicine have already led to the emergence of new specialties which are likely to become essential where perfusion techniques in cardiac surgery or dialysis with the artificial kidney are regularly used—and these are not reliable methods in the hands of the occasional user.

The cardiologists were the pioneer users of electrophysiological phenomena in diagnosis, and the interpretation of the average electrocardiogram is part of the daily work of many physicians, but there are advanced methods of electrocardiography and other specialized investigations in cardiology which are almost wholly the province of the special cardiological department. Even some radiodiagnostic techniques are more used by cardiologists than by radiologists. Electroencephalography began to be used generally in neurology, neurosurgery, and psychiatry only after the war, and its future has not yet become firmly established.

Yet there is a clear trend toward concentration of this work in a few hands, and a breed of neuro-electro-physiologist (if that is an admissible term) is emerging in main centres and the need to provide a regional consultative service rather than more machines is now recognized.

The related subject of electromyography has hardly been developed at all, and such odd corners as the use of myo-electric potentials for the control of externally powered prostheses are only in the earliest research stages. Yet the use of the artificial cardiac pace-maker is already common in thoracic surgical centres, and we are certainly not at the end of developments of this kind. The anaesthetists, coming late to the field, are already deeply involved in "medical electronics," and I know of one London teaching hospital where a special department is already being developed. There is likely to be a rapid extension of automatic analysing machines in this kind of work before many years have passed.

Already in North America electronic recording systems are being used much more widely than here. Have you ever reflected on the number of woman-hours being expended daily on recording temperature, pulse, and respiration rates in hospitals? Let us start by admitting that perhaps half these observations need not be made daily at all—they represent only the survival of the one relevant objective set of records science provided for nurses to record fifty years ago. In the cases where they are still necessary, is an hourly, four-hourly, or twelve-hourly record always enough? And is it accurate in the most seriously ill patients, anyway? Should we not take a fresh look at this system, which may be as obsolete as the belief that a patient admitted to hospital must stay meekly in bed? If we really want an accurate continuous record of these physical signs in a patient, desperately ill, are there not electronic recording systems —used for healthy dogs and astronauts in certain circumstances—which might be developed for this purpose? I know someone is going to say that you can't get tender loving care from an electrical device; but you don't get it from a clinical thermometer any more than you get a really accurate reading. There are other ways.

Not all the new specialization flows directly from scientific devices. New surgical techniques develop partly because of the special interest and skill of individual surgeons, but in recent years also because of the application of physiological and biochemical studies and of the control that such new methods make possible. Perhaps the new anaesthetics and the rapid advance in anaesthetic techniques have contributed even more. The actual surgery of the heart is not exceptionally difficult; it is the precise pre-operative diagnosis of the lesion, the physiological control of artificial perfusion and elective cardiac arrest, and the anaesthesia that make this surgery practicable. As one member of a pioneer group put it to me—there is no place for the "great man" in open heart surgery. Even a new tool like the operating microscope suddenly makes possible new surgical remedies and has transformed the lives of hundreds of the deaf through the operation known as mobilization of the stapes.

There are, of course, some opposing trends. Special knowledge or techniques are acquired to some extent by the general physicians and surgeons. Some of the special techniques may be laborious, repetitive, and quite appropriate to be left to the non-medical technician or to the practised medical assistant. Some of the specialties have an administrative rather than a true medical origin, such as those of tuberculosis, infectious diseases, and venereology. The old-style tuberculosis officer has disappeared and the sanatorium doctor will soon do so; the present-day chest physician is, or should be, a general physician specially experienced in diseases of the lungs. The diagnosis and treatment of infectious disease now requires less than a fifth of the beds which were estimated to be necessary twenty years ago, and the charge of those beds is steadily passing into the hands of the physicians and paediatricians with special experience. Venereology remains a separate specialty more for social than for true medical reasons, just as geriatrics is a specialty which exists largely because the care of the chronic sick is part of a predominantly social problem not requiring special scientific methods. The prescription and fitting of artificial limbs is slowly being brought back into the general field of orthopaedic surgery. The new surgical techniques become safer as they are perfected and, for instance, the thoracic route may be used by the abdominal surgeon. Perhaps the controlling fact is that techniques may be so standardized as to become part of the repertory of the operator, but methods which require a greatly increased knowledge of detail or the regular joint work of a practised team cannot be successfully absorbed by the general surgeon. There must be a limit to the range of the individual, however standardization or classification may assist. Automation will certainly play a larger part in laboratory and other diagnostic work.

Diagnostic Aids

It is impossible to give an accurate measure of the change in total work that has occurred in the diagnostic departments. The statistics have differed in form, and their interpretation cannot be accurate. In 1949 the number of examinations in the radiology departments was 7.87 millions and in 1959 the number of units of service was 21.12 millions; this probably means an overall increase of almost 100%. In pathology the numbers of examinations were 11¼ millions in 1949, and of patient requests, which probably mean a good deal more, in 1959 17¼ millions. But this is only a small part of the story; the complexity of the examinations undertaken in these departments has increased. This is particularly true of biochemical investigations, a branch of pathology which now forms so large and complex a part of the work that it has been necessary to take steps to train a number of doctors in chemistry so that a new sub-specialty of chemical pathology can emerge. The all-purpose pathologist of 20 years ago has been replaced by the group of consultants each taking charge of a section of the work.

The change in work of the diagnostic departments is not due to hospital practice alone. Many of the tests done may be required only for primary diagnosis, but others are required for the control of treatment. A simple example of this is the introduction of anti-coagulant treatment for coronary disease. Accurate diagnosis and prognosis may call for the advice of the cardiologist, and thereafter some patients may be adequately treated at home. If anticoagulants are used, as they increasingly are, then there must be regular estimations of prothrombin levels until a balance has been achieved, and thereafter at lengthening intervals. If the patient is to be treated at home the responsibility is that of the general practitioner, but he cannot exercise

it properly without the help of the pathologist. Nevertheless, most of the tests that the general practitioner will require will be for diagnostic purposes. At Darbishire House Health Centre it was found that the most common investigations were urine tests and haemoglobin estimations. A recent issue of the *Journal of the College of General Practitioners* records a study by a group of doctors in the Reading area well illustrating the economy and value of the direct service.

In the radiology department the commonest investigations are for injuries which might include injury to bone, and chest radiography. Certainly none of these investigations are used as widely as they should be in general practice. It is still recognized that the great majority of the pathological investigations done for practitioners are done for a small proportion of those in the area. There is evidence from Darbishire House of an actual reduction in reference to hospitals following the increased use of diagnostic tests. It is often suggested that the departments themselves cannot face the extra load involved in providing a direct service to general practitioners, but there is really no evidence to show that there is an increased load. If a patient for whom a test is necessary is referred to the out-patient department first, the test will still be done. Other tests may also be used and out-patient time will be wasted if an equally effective result would have been obtained after direct reference by the general practitioner. This question needs more precise statistical investigation than it has yet had. Dr. Eimerl's study in a group of practices suggests that the number of investigations required is not really very large, perhaps of the order of one pathological test and one *x*-ray examination for every 20 patients per year.

The student sees his teachers carrying out diagnosis and treatment with the assistance of a battery of scientific investigations and the reports of other consultants. When he is a house officer he orders such investigations on behalf of his chief. If he goes on to be a registrar he often reaches at least the primary diagnosis and the initiation of treatment on the basis of the results reported. If this man then goes out into general practice it is absurd to prevent him from having similar aids to diagnosis and the control of treatment. Of course, many practitioners were trained at a time when they had few opportunities to use such aids. If they are prevented from using them now they have little chance to practise medicine with a full understanding of the benefits that their patients could have from such aids. It is true that a large proportion of the conditions treated in general practice are minor and respond to simple drug therapy or to psychological treatment, but there is no reason why the hospital doctor should be the only person who is able to have his diagnosis of lower respiratory conditions confirmed by radiography when the use of modern apparatus, perhaps of the mirror-camera type, could provide accurate evidence much more certainly than any simple clinical examination, or his suspicion of anaemia checked by a haemoglobin estimation done for him in a laboratory.

It has long been part of the Ministry of Health's policy to provide access to radiology and pathology departments for general practitioners, and there is no evidence to support the idea that general practitioners will use complicated and expensive tests wastefully. These services should at least be available. You may remember that in the Collings Report on General Practice much was made of the fact that none of the practitioners visited used his own microscope. Is this really a criticism of general practitioners? Why should a general practitioner rely upon his own necessarily inexpert, because relatively unpractised, microscopy if a pathological laboratory with specialist service is at hand? It may be that we will also need to provide electrocardiography services for general practitioners. Some group practices regularly use their own recording machines, and it is a common thing for a physician to be called to a domiciliary consultation which requires the use of the electrocardiograph.

Future Development

My general conclusion is that specialization in hospital work has not yet gone far enough. Consultative services such as cardiology, urology, and neurology will not take over all the care of diseases of the heart, kidneys, and central nervous system, but they should be more widely distributed than they are. Their lack of development in some regions, even their exclusion from particular major hospitals, prevents the development of the attainable level of clinical service. I do not suggest that we are likely to see such elaborate specialization as the emergence of a specialty I have seen identified in New York as "Vestibulotomist"—the man who does fenestration for otosclerosis—but rather that the increases in specialists should be proportionately greater in them than in the main older specialties.

Keeping Medicine Together

If, then, we are facing a progressive increase in specialization, how are we to avoid the division of the care of the patient and the failure of communication of knowledge between the specialists and the rest of medicine? How are we to balance the need to include the stimulus of new specialties in the work of teaching hospitals and at the same time preserve sufficient work on the medical problems of every day to give all-round experience to the student? These are the great dilemmas of medicine as I see them.

With the disappearance of small hospitals and the organization of hospital services upon a basis of area general hospitals, it should be possible to ensure adequate communication between the specialties. There will have to be some surrender of cherished independence. The old pattern of rigid bed-allocations and the extent of consultation, or even transfer of patients, between consultants both need change. The diagnostic departments are valuable links between specialties, but there must be more direct communication. Of course, there remain some relatively straightforward procedures which need the intervention of only one specialty, but there must be very few which involve neither pathologist, radiologist, nor anaesthetist with the clinician. The clinicopathological conference can be overdone, but there can surely be no justification in a modern hospital for the absence of all such activity. There must be readier recognition of the contribution others can make to the care of the patient. I wonder how many hospitals have acted upon the recommendation of the Platt Committee on the Welfare of Children in Hospital that the paediatrician should be concerned with at least general oversight of all children in hospital. Indeed, how many obstetric departments still insist that the obstetrician should supervise the nursery?

The greater difficulty now arises in communication between hospital medical staff and general practitioners.

The evidence obtained for the Platt Working Party on Hospital Medical Staff suggested that many doctors in this country enter general practice after not more than 1½–2 years in hospital work. That situation may be partly artificial, because of National Service—which will shortly end—but two years seems nowadays a very short time in which to acquire the experience in clinical management of patients which must be essential to any form of independent practice, even allowing for the equally necessary period as G.P. assistant. The Working Party made it clear that it considered that a total of at least three years was desirable—and there are many who would think that a longer period would be an advantage. In Sweden it has always been the custom, even after their long undergraduate course, for doctors to spend ten years or more in a variety of hospital posts before going out to practise independently. They have, of course, arranged their junior hospital staffing so that such posts are compatible with a normal family life. Given such arrangements in British hospitals there seems every reason why young doctors should stay longer in hospital work. But there must also be an adjustment of the work they are to do in hospital which will make it better fitted as a prelude to general practice or public health work.

At present, our hospitals are largely staffed as if all who work in them after the pre-registration year are bent upon specialization. That cannot be so; there has been a great increase in junior medical staff in hospitals and, whatever the increase in fully trained specialist staff, it seems very unlikely that there will be any diminution in the number of juniors. Indeed, over the years an increase is more probable. Of course, six-month house-officer posts in medicine, surgery, obstetrics, or paediatrics may give valuable experience, but many of the others are less attractive because they lead nowhere. However long postgraduate experience in hospital continues, there will still be the problem of communication of knowledge between hospital specialists and general practitioners afterwards. There is no reason to expect a reduction of the present tempo in medical progress, and the amount of time that every doctor in hospital or out of hospital must now spend in reading in order to keep himself familiar with new progress increases steadily. Increased specialization, however, makes this process of communication increasingly difficult. Journals cannot be a complete solution to the problem of communicating knowledge, but they help. The *B.M.J.* and the *Lancet* both try to meet this difficulty with their editorials and their series of articles reviewing recent changes. Other journals, like the *Practitioner* and the *Medical World*, are more particularly devoted to this same object; but one wonders whether the conditions of many practices are really conducive to as much reading as is necessary. Moreover, many people need to visualize their subject and cannot make full use of the written word alone.

General Practitioners and Hospital Work

There still remains the problem of elaboration of the written word and a communication of understanding which is not always possible without discussion. At present about one doctor in nine in England and Wales attends a postgraduate refresher course each year. We do not know whether it is always the same one, but it is certain that many doctors either have no such opportunities or do not use them. There are other, less formal opportunities of exchange—for instance, the regular clinical rounds at week-ends provided at so many provincial hospitals, and special evening sessions provided at some teaching hospitals, such as the London Hospital. There are also domiciliary consultations, though not always accompanied by an actual meeting of consultant and general practitioner; and there are some doctors who find it possible to visit their own patients in hospital. In the Birmingham region, roughly one doctor in four has a sessional appointment at a hospital; and if one doctor in a group practice had such an appointment, he would bring something back to the others. The Platt Working Party urged the wider use of general practitioners in hospital, and emphasized the advantage of longer experience in hospital work for the future general practitioner to fit him for this. But, in sum, this still falls short of the amount of interchange that should occur. Perhaps we will always be pursuing the impossible in this, but it must certainly be a primary concern of the Health Service to see that such opportunities are increased.

I am sure that we have not yet exploited the facilities of our major non-teaching hospitals in providing post-graduate facilities for general practitioners. One would like to see the library facilities that every hospital should possess made freely available to every doctor in the area. Further than this, there should be opportunities of meeting between specialists and general practitioners at the hospital on a much larger scale than now exists. In Exeter, Stoke, and Kingston, and at one London teaching hospital steps are being taken to provide special premises at hospital for this purpose. Local medical societies, and the King Edward Hospital Fund, have been responsible for these experiments. We do not want to make all medical care hospital-centred, but we must make hospitals more active in disseminating scientific medical information than they now are. Equally, we may hope that hospital medical staffs will become more receptive of the other information about patients, which they can obtain fully only through general practitioners.

I do not think that beds for general practitioners in hospital are the solution to this problem. I am sure that general practitioners who are doing midwifery work should be able to attend their own patients having normal confinements in hospital, and that is an opportunity that may bring a majority of doctors into hospital. There may also be other opportunities, such as the Platt Working Party suggested, of giving general practitioners access to medical beds where patients are admitted for social rather than special medical reasons. But already the allocation of beds between specialists is too rigid; it should not become a further complicating factor that another block of beds is set aside for general practitioners.

The general practitioner is the patient's main insurance against the effects of over-specialization. He must accept a greater degree of medical responsibility for the continuing care of his patient and be given the opportunity to exercise it. He obtains the necessary specialist advice, but he is also needed to advise the specialist in some aspects of the care of the patient in any illness. The day when single undivided responsibility for the care of the patient was carried by one medical man has passed. It is through partnership between general practice and the specialists that we can overcome the inevitable disadvantages that limitation of primary interest must impose upon the individual specialist and the patient.

GENERAL PRACTITIONERS AND HOSPITAL BEDS IN THE UNITED KINGDOM

BY

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Nearly everyone agrees that a general practitioner can help the hospital service most, in its staffing difficulties and shortage of beds, by treating his own patients well in their homes. Not all can be treated at home, however, and there are five questions about family doctors and hospital beds which must be answered soon if the proper role of the general practitioner in the health services of our country is to be recognized: (1) Should he treat any of his patients in hospital beds? (2) If so, can he be fully responsible for their care? (3) What part should he play in specialist teams in hospital? (4) How many beds does he need? (5) Where should they be situated—in general-practitioner hospitals, or in annexes or wards of general hospitals?

Sir George Schuster (1961), speaking to the General Practice Section of the Royal Society of Medicine, rightly stressed the importance of co-operation between family doctors and the hospital service. He invited comment from general practitioners on this subject, and one hopes that many will accept his invitation. Here I express my own views and offer them as a possible basis for further discussion.

Advances in medical knowledge have strained to the utmost the resources of general practitioners in this country, and the National Health Service has been criticized for not bringing the benefits of modern medicine sufficiently to patients in their homes. To keep the family doctor of to-day in touch with scientific methods is one of the main arguments in favour of bringing him into closer contact with hospital work. The weakest argument, with general practice already undermanned, is that he should return to the hospitals because they are now short-staffed and rely so heavily on junior doctors imported from abroad.

It is in providing continuity of care throughout many different illnesses that the work of a general practitioner differs fundamentally from that of a specialist; this is the overwhelming justification for his existence. The link between him and his patients should remain intact whenever possible, and everyone must agree wholeheartedly with the principle that he should be encouraged to look after his own patients wherever he can do this efficiently.

Should General Practitioners Treat any of Their Patients in Hospital Beds?

With the present widespread shortage of doctors some people consider that general practitioners are so busy that they have no time to treat anyone in hospital. Others who take the opposite view can show that many patients with simple and straightforward illnesses and minor accidents, which are within the province and competence of an experienced family doctor to treat, have to be admitted to hospital only because domiciliary treatment is difficult or impossible owing to unsuitable home surroundings. The many clinical conditions which are within the scope of general practice need not be listed here; but one can safely say that the better-trained, more competent, and more experienced a general practitioner is the longer will be this list.

Apart from social and economic factors there are other important reasons why general practitioners should be allowed to admit some of their patients into hospitals under their own care. To follow up an illness closely in a hospital environment—even in a small hospital—and to be responsible for diagnosis and treatment there, is often of considerable educational value to a family doctor, however experienced he may be, and it reduces his feeling of isolation. More frequent contact with specialists helps to maintain his knowledge of scientific medicine, his enthusiasm and skill, and to keep him a sound up-to-date clinician. It may also stimulate him to develop a special interest —in internal medicine, obstetrics, minor surgery, accident surgery in peripheral casualty centres (Osmond-Clarke *et al.*, 1961), in rheumatology, paediatrics, geriatrics, etc.—so that he may support his colleagues in a group practice in these subjects or take his appropriate place in a specialist team. This interest, in its turn, may induce him to undertake clinical or social research, write a thesis, sit for a postgraduate degree or diploma, or help in teaching. Despite these points in favour of general practitioners having hospital beds and special interests, I must urge that these matters be approached with caution because they bristle with difficulties, some of which will be discussed later.

There are considerable advantages for a patient in remaining under his family doctor's continuing care when admitted to hospital and being nursed near where he lives and under better conditions than many homes allow. A change of doctors is avoided. Knowing the family background and home environment of his patient, the general practitioner will often be able to give better-informed and more personal attention than can a stranger. Sometimes it may be possible for the patient to be discharged from hospital sooner than expected because the family doctor knows just how much he can do for him at home.

Hospitals gain something, too, when family doctors visit them. It increases the nursing staff's understanding of the patients' and the doctors' problems, and often simplifies admission and discharge. The spheres of influence of general practitioners and consultants overlap; consultants appreciate closer liaison and co-operation with general practitioners, and many of them like to be asked to see patients in the smaller hospitals. General practitioners can help to staff hospitals and homes for the elderly, chronic sick, and convalescent, which is another aspect of this same problem.

On July 11 the Minister of Health said in Parliament:

> "No one who has given attention to the problem of the future of general practice doubted that a close link between hospitals and general practitioners was integral to its solution." (Powell, 1961 (a).)

What better link can there be than for general practitioners to care for a larger proportion of their own patients in hospital? If family doctors of the future are to play their proper part in developing the general-practitioner aspects of the obstetric, geriatric, casualty, and other services, they must have entry into local hospitals and retain continuing responsibility for the care of some of their patients admitted there. The British Medical Association (1952, 1953, 1960, 1961) has

consistently pressed for more general-practitioner hospital beds; successive Ministers of Health have publicly announced support for the provision of these; and so have the Royal College of Obstetricians and Gynaecologists (1958), the College of General Practitioners (1956, 1960), the Scottish Health Services Council (1952), the Executive Councils' Association (1959), the Cohen Committee (1954), and the World Medical Association General Assembly (1949).

An example of what *can* be done has been given recently by Sir George Schuster (chairman of the Oxford Regional Hospital Board) (1961):

> "Two things seem to me to be clearly right: that there should be a generous provision of general-practitioner maternity beds and that an adequate number of smaller hospitals served mainly by general practitioners should be retained in rural areas. In the Oxford region we have the lowest maternal mortality rate of any region and also what is, I believe, the highest proportion of general-practitioner maternity beds. Our forward planning proposals provide for 360 general-practitioner maternity beds as compared with 490 beds in specialist units. Our plans also provide for 329 general-practitioner acute and convalescent beds and 729 general-practitioner long-stay beds in smaller rural area hospitals. . . . We are contemplating the possibility of making an experiment with a general-practitioner ward in one of our main general hospitals."

Can General Practitioners Take Full Responsibility for Some of Their Patients in Hospital?

Medical schools teach students to treat patients in hospital. All doctors entering general practice in Great Britain now must have spent a year in pre-registration hospital appointments. Many have done further resident house appointments or have been registrars or senior hospital medical officers, and have gained postgraduate degrees and diplomas. There are now more than enough family doctors with the D.Obst.R.C.O.G. for the number of general-practitioner maternity beds. One-fifth of those now entering general practice have held a registrar's appointment, and it seems wasteful that their training and experience in hospital work should not be of continuing benefit to their own patients later. Family doctors already undertake full responsibility for treating their patients at home, and there can be no doubt that many of them are capable of taking equal responsibility for some of these same patients during short spells in hospital.

Attention has recently been focused on this matter by the publication of the report of the Joint Working Party of the Ministry of Health and of the Department of Health for Scotland on "Medical Staffing Structure in the Hospital Service" (under Sir Robert Platt's chairmanship). The first and main recommendation of that working party was:

> "The staffing structure must be based upon consultants as being the only doctors in the Hospital Service who should take full personal responsibility for patients and the medical work required for them." (Platt *et al.*, 1961 (a).)

This is a very important point, because general-practitioner hospitals are within the hospital service and, as this recommendation reads and as it has been widely interpreted, its implementation would mean that no family doctor in Great Britain would any longer have ultimate responsibility for any patient in any hospital bed. Many general practitioners would disagree most strongly with that. Members of the working party say earlier in their report, however,

> "We visualize that general practitioners will continue to be employed at cottage hospitals in which they maintain responsibility for their own cases with advice available from consultants visiting regularly." (Platt *et al.*, 1961 (b).)

This apparent contradiction has now been resolved by personal communications with Sir Robert Platt and with members of his working party. I am assured that their main recommendation is meant to refer to doctors *exclusively* in the hospital service, and that they had no intention of interfering with the full responsibility of family doctors for patients in general-practitioner hospital beds. This is right. General-practitioner hospitals in country areas may be 20 or 30 miles away from the town where the nearest consultants work. A physician, surgeon, or obstetrician-gynaecologist may visit such a hospital regularly, but other consultants in 15 or more different specialties may occasionally have to be called in. It would be a waste of effort for them to visit the hospital regularly on the off-chance of finding a patient requiring their special skill, and it would be difficult for them, when they find one, to give him adequate personal supervision without transferring him to their own main hospital.

Consultants are too busy already to be asked to take full personal responsibility for patients admitted into small hospitals with straightforward complaints for which their special skills are not required—patients whom they may seldom, if ever, see. A general practitioner should always select his patients for admission to general-practitioner hospital beds and he should retain full clinical responsibility for their treatment. Should complications develop, or other difficulties arise which are beyond his scope, he should do just what he would were the patient at home—call in a consultant for another opinion or transfer the patient for specialist care elsewhere.

What Part Should General Practitioners Play in Specialist Teams in Hospital, Looking After the Patients of Other Doctors?

Another recommendation of the working party was that some general practitioners should be encouraged to work in hospitals, making

> "a daily visit of two or three hours to supervise the work of the house officers, to see newly admitted cases with them, to undertake or supervise the performance of technical procedures in the wards, and in certain cases to perform operations and to undertake other responsible duties after consultation with the consultant in charge." (Platt *et al.*, 1961 (c).)

There were no general practitioners on the working party, though much evidence was obtained from general-practitioner organizations and individual family doctors, of whom I was one. We all know how anxious Sir Robert Platt is to help general practice, and how much he has done for it already; but the terms of reference of his working party were concerned with the medical staffing structure in the hospital service, and its report was written in the interests of hospital staffing, which explains why the emphasis was (quite reasonably) more on how general practitioners could help the hospitals than on how the hospitals could help them in looking

after their patients. In this present review, which is written in the interests of general practice, the bias is, I know, towards the other side.

From the hospital staffing point of view, the more family doctors who can be persuaded to work in hospital assistant grades, helping to care for the patients of other doctors, the better; that would certainly ease the staffing difficulty and perhaps help to solve the registrar problem. But many people who have the interests and future of general practice at heart, and those who appreciate the shortage of general practitioners, are unhappy about this recommendation of the working party.

Clinical Assistants

For the purpose of promoting his continuing education, and for stimulating, encouraging, and improving his work outside hospital, a general practitioner can work in a larger hospital for one or two sessions a week as a "clinical assistant" in the wards or out-patient clinics of a special department of his choice. Many family doctors who are seeking an extension of their interests or a wider selection of clinical cases than they see in their practices already do this; the hospitals in which they work often find their assistance invaluable, and the variety and scope of general practice are thus increased. A doctor who has developed and maintained such an interest in a special subject may do this part-time work in one department for several years as a member of a specialist team and under the supervision and clinical responsibility of a consultant; another may prefer to move round different specialties in rotation.

At present only a few specialist departments provide openings for clinical assistants; the range could be widely extended in those specialties in which this assistance is suitable, because nearly all additional experience can improve a doctor's quality. In the Birmingham area one general practitioner in four is already doing some such work in hospital, and in the Manchester area one in ten. Many more general practitioners would be only too glad to apply for these appointments if the duties, responsibilities, status, security of tenure, and remuneration were made attractive, and if a senior more responsible grade could be introduced for those with much experience, as the B.M.A. recommended in 1952 (b). The titles of these posts could be "clinical assistant" (as at present) and "senior clinical assistant," if the S.H.M.O. and equivalent grades are as unsatisfactory as many people, including the Platt Working Party, think. (Platt *et al.*, 1961 (d).)

Such senior clinical assistantships are likely, I believe, to be more valuable to suitably trained and experienced general practitioners than the "medical assistantships" with daily duties in hospitals suggested in the Platt Report. As a general rule, a family doctor should not be away from his practice for longer than one or two sessions a week, unless he or she has few patients or wishes to do what amounts to part-time work in some other branch of the profession. Some who have just joined or started a practice, some established practitioners who have plenty of partners, and some married women doctors may belong to this category. Family doctors may occasionally object to their colleagues holding appointments in specialist teams and seeing patients whom they have sent for a consultant's opinion; although this feeling does sometimes exist, it has been found in practice that there is not much substance in it. Stephen Taylor (1954) wrote: "The clinical-assistant post is likely to be the key to the future work of the G.P. inside hospital."

There is a limited need for a stepping-stone from general practice to consulting work, and vice versa. A senior clinical assistantship in any subject would be as good as a medical assistantship for those who aim at leaving general practice altogether to become consultants or for consultants wishing to enter general practice. Such changes could easily be made by increasing or decreasing gradually the number of sessions in hospital. A few "general-practitioner consultants" already do four or more sessions a week; but this often means a limitation of their lists, and their numbers are dwindling.

The Personal Doctor

There are those who say that general practitioners must get back into hospitals at any cost and accept gratefully whatever work they are given. Others think that they could pay too high a price for this return, and that it would be a great mistake for them to give up too much of their precious time working in hospital assistant grades as "extra pairs of hands" or as "convenient sources of extra help" carrying out daily routine duties or supervising the work of others, merely because there is a shortage of proper hospital junior staff.

There is a limit to the time a family doctor can spend away from his own patients, however much he may be pursuing his continuing education—as a clinical assistant, in postgraduate courses, or when reading at home or in a medical library. In an emergency he would, of course, want to help his local hospital in every way. But ordinarily he should spend nearly all his time giving good and up-to-date care to his own patients; that is where he is needed most and wants most to help, and where he can always learn a great deal—a point not always appreciated. For many generations family doctors have done their best to give their patients this personal service and attention. It is a sad reflection on our modern medical system that the importance of this personal care, and of the personal doctor behind it, has recently had to be almost rediscovered and hailed as something new. Good general practitioners have known about it for a very long time, but they must be grateful to Dr. T. F. Fox (1960) for drawing attention to it so clearly once again.

The profession, the Ministry of Health, and those elsewhere who are responsible for implementing the Platt Report will no doubt consider carefully the effect of its recommendations not only on hospital staffing but also on general practice. One of the greatest needs to-day is for more general practitioners with smaller maximum lists (without reduction in pay) and with time and encouragement to treat patients really well. Rather than denude general practice still further by asking family doctors to disrupt their proper work for several hours a day to supervise house officers looking after other doctors' patients in hospitals, would it not be wiser to help them to do their own job better—shouldering their primary responsibility, which is to look after their *own* patients?

How Many Hospital Beds Do General Practitioners Need?

At present, general practitioners in England and Wales are in charge, on average, of less than one hospital bed each, and this includes their maternity beds and private pay-beds (Ministry of Health, 1961). The number of general-practitioner beds is slightly larger than it was five years ago, but is still less than in 1948. There are those on the administrative and hospital side who think that even this small number is too large, and attempts have been made, some unfortunately successful, to reduce it still further. Other responsible people believe that family doctors should have more beds than this. Some already have them, to their great advantage, like many of their colleagues in Canada, the U.S.A., New Zealand, and Australia; but the distribution of general-practitioner beds in this country is very uneven. During recent trips abroad I have seen a large number of general practices, many of them closely connected with small hospitals: although the conditions under which those doctors work are often quite different from ours, my impression is that their clinical interest, enthusiasm, efficiency, and incentive to keep up to date are greatly enhanced by being able to treat some of their patients in hospital. In this way they accept and respond to the challenge of being given more clinical responsibility.

For the future we must plan for the young men and women entering general practice. We do not know for certain how many of them will be willing to do some hospital work; but most of those in Great Britain will have been properly trained in hospitals, having done their full share of resident appointments. The Platt Report says:

> "We consider that ideally new entrants to general practice should have spent at least two years in the Hospital Service after becoming fully registered. If this became the regular career pattern of British graduates, a substantial contribution would be made towards the provision of adequate staff between the provisionally registered houseman and the registrar." (Platt *et al.*, 1961 (e).)

With another year in pre-registration appointments this would mean *three* years in hospital after qualifying, which I believe might often be too long because these young doctors need considerable vocational training in general practice also. About two years in each post-graduate discipline—hospital and general practice—will probably prove to be the right training for good family doctors of the future. When starting in practice it is likely that nearly all of them would welcome the opportunity of treating some of their own patients in hospital and using the skills which they had been taught.

Methods of payment of family doctors working in general-practitioner hospitals and as clinical assistants in larger hospitals will need to be reviewed and adjusted. It is not satisfactory that their remuneration for this should be at the expense of the central pool, the money being automatically deducted from the total amount available for distribution as capitation fees or notional loadings. If general practitioners are to be encouraged to work more in hospitals this must be put right (Davies, 1961). The success of general-practitioner midwifery beds is due partly to the fact that general-practitioner midwifery is guaranteed a proper fee.

Many older general practitioners in this country do not want hospital beds under present conditions of payment and would only half-heartedly support them even if they were supplied. Some of those who have them do not use them fully. If offered the use of such beds for their own patients many would say that they were too busy or that they did not want to change their ways or take on extra responsibilities—the capitation system of payment tends to encourage unloading of responsibility rather than taking on more. Some might think that they would need retraining in certain techniques. Some live and work too far away from any hospital. Others are in the happy position of being able to treat nearly all their patients quite adequately at home, except the few they send to hospital for full consultant care; they find domiciliary general practice under present conditions a full-time and satisfying job.

We are told that there is no need for an increase in the total number of hospital beds in our country. Better housing, more recruits to the home-help and home-nursing and other ancillary local health authorities' services, and improvements in modern drugs make possible more out-patient and domiciliary treatment each year (Forsyth and Logan, 1960; Crombie and Cross, 1959). This, together with reorganization of the mental health services and increasing care of the aged and chronic sick in hostels, should free many hospital beds before long. The suggestion has been made that in 15 or 20 years' time up to 50% of the present half-million hospital beds in the United Kingdom may not be needed (Holmes Sellors, 1961).

Before general practitioners can have more hospital beds several things will have to be done apart from improving their training in hospital, ensuring adequate consultant liaison and cover, and adjusting their method of payment: some reduction in the size of maximum lists, some reallocation of beds by hospital planning authorities, and much hospital adaptation or rebuilding will also be necessary. The total number of general-practitioner beds in future will depend on how rapidly these developments are pushed forward and how much money there is for them. Those family doctors who want hospital beds must not miss the chance which the promise of more money for hospital building now gives them to stake their claim for their legitimate needs. When there are enough general practitioners, the number of consultant hospital beds which are occupied by patients with conditions which are within the competence of family doctors to diagnose and treat correctly, but who cannot be looked after at home, will be a rough indication of the number of additional general-practitioner hospital beds that will still be needed.

Where Should General-practitioner Beds Be Situated?

Country districts are best served by having their general-practitioner beds in general-practitioner hospitals. In urban areas it may be more convenient and cheaper for some of these beds to be in annexes of general hospitals or in general-practitioner wards within these hospitals. Patients whose medical expenses are covered by personal insurance or private fees will continue to be admitted into private hospitals or nursing-homes, into the private beds of small hospitals, or into the paying-patients' blocks of larger hospitals.

(1) General-practitioner Hospitals

"Cottage" hospitals and other general-practitioner hospitals in country towns have long been of great value, and they still are. Many of them have been well run and deservedly popular. The work done in them may sometimes have been poor, occasionally even bad, but for the most part it has been admirable and of more than adequate standard; some of it would not have been done at all, anywhere, had these smaller hospitals not existed. The convenience to patients, relatives, and to doctors of a hospital near by is obvious. A general practitioner can visit several patients in such a hospital far more quickly than he can travel round to see them in their homes. Patients appreciate the intimate familiar surroundings and other local advantages of these smaller hospitals, and the friendly co-operation between doctors often fostered within their walls.

There is need for a large-scale study of the present pattern of use of beds in general-practitioner hospitals and for carefully planned experiments, under proper conditions of payment, to predict their probable future value and to ensure that they are run economically. It has been said that the majority of patients admitted to general-practitioner hospital beds at present are either surgical or chronic cases, and that relatively little of the work done in them is of the kind usually thought about in the past. This may be so in some places, but it should certainly *not* be so because the wards of many larger hospitals contain patients whom general practitioners could easily diagnose and treat themselves, given the right training, the time, and proper conditions.

The main criticism of general-practitioner hospitals in the past has been that family doctors have sometimes treated unsuitable patients in them—patients (often surgical or orthopaedic) who should really have been under a specialist's care and perhaps should not have been kept in these hospitals at all. This difficulty, which has already greatly diminished, can be eliminated by improving the training of general practitioners, by increasing the time they spend in hospital before entering general practice, by ensuring frequent meetings and exchanges of views with consultants, and by encouraging regular postgraduate study.

Consultant Cover

In a large hospital, members of the staff are criticized and advised by their senior and junior colleagues, whether they like it or not, and their sins will usually find them out; but sometimes a family doctor can look after a difficult case in a quiet corner of a small general-practitioner hospital with no one to criticize him except the nurses, his patient, and the relatives. How can we get over this real difficulty and solve the delicate problem of adequate consultant cover or control? How can we safeguard patients when a doctor who knows that he should call in a consultant ignores his obligations, when consultants complain that they are called in too late and general practitioners grumble that consultants interfere? As in other branches of medicine, one must usually rely on the conscience of a well-trained doctor who has kept himself up to date.

Consultants might perhaps be asked to see (in an advisory rather than a supervisory capacity) every patient who has been in a general-practitioner hospital for more than a fortnight, the general practitioners themselves having full clinical responsibility for short-stay cases, calling in consultants when they wish. In some hospitals the family doctors have already invited consultants to give them general supervision. The Royal College of Obstetricians and Gynaecologists has recently suggested that consultants might perhaps be given the power to "initiate a consultation" on patients who are not doing well; to do that they would have access to the notes but not to the bedside, and perhaps hear regularly through the matron about the progress of patients. This might be satisfactory for obstetrics, but many general practitioners might not altogether approve of it for other patients; it savours somewhat of "snooping." Another possibility is that senior consultant advisers in medicine, surgery, or obstetrics and gynaecology might be appointed yearly on a sessional basis (after nomination by the family doctors of the general-practitioner hospital) to hold regular out-patient clinics at the hospital so that they meet the general practitioners often and know them well, and second opinions can easily be sought.

For the smooth working of general-practitioner hospitals of the future, the fullest opportunities should be taken for close and friendly liaison between the doctors who work in them and their consultant colleagues. The general practitioners must arrange how best they can ensure adequate and efficient consultant cover. If these points are generally accepted by family doctors I believe that they will obtain the full support of most consultants in their campaign for more general-practitioner hospital beds.

General-practitioner Hospitals in Urban Areas

There are already a few general-practitioner hospitals in urban residential areas, and there is no medical reason why there should not be more in large towns and cities as well. Family doctors do much the same kind of clinical work wherever they practise; their patients suffer from much the same complaints, and there is no fundamental reason why those in the country and those in towns should be treated differently. Mr. R. Idris-Lewis (1961) has made an important observation about this:

> "The majority of general-practitioner hospitals are descendants of the 300-or-so cottage hospitals built in the second half of the last century to serve the sick poor in isolated areas. But since then a most interesting historical fact has occurred unnoticed. In many small towns these small hospitals have become engulfed by the sea of urbanization, and modern communications have brought the big towns nearer. One might have expected the small hospitals to lose their value. Instead they have thrived, and are not only prized by the doctors who work in them, but greatly loved by the populations for whom they were built. Here, without tiresome duplications of doctors, they can be treated for a multitude of complaints in relative quiet and homeliness, close to their relations and friends, under the continuing care of the doctor they know."

Staffing of General-practitioner Hospitals

General-practitioner hospitals do not usually need resident house officers; family doctors probably do better managing the day-to-day treatment of their own patients there themselves, arranging a rota for casualty and other emergency work. Where possible such hospitals should have a small operating theatre, an *x*-ray department, a pathological laboratory, and perhaps an electrocardiograph, all under the supervision of a visiting specialist. The scope of the investigations carried out in these small special departments could be

roughly the same as those done in general-practitioner diagnostic units elsewhere (Hunt, 1951, 1955). Technicians should be on call but need not necessarily be full-time; complicated pathological investigations could often be done from a near-by general hospital if there was an efficient collecting service.

Major difficulties and restrictions at present are due to shortage of nurses and midwives, of domestic staff, ancillary staff such as radiologists and laboratory technicians, and of some apparatus and equipment. I foresee that what has been found recently in general-practitioner maternity units—the development of which is now being encouraged—will soon apply to other general-practitioner hospitals. Under a good matron staffing difficulties in these maternity units may not be so great as they are in the larger hospitals; many midwives prefer the somewhat freer social and medical life in the smaller hospitals, and more part-time use can be made of married nurses.

Cost of General-practitioner Hospitals

It is often said that beds in general-practitioner hospitals are less efficient and economical to run, and therefore relatively more expensive, than are those in general hospitals even though the former have no house officers. I doubt whether this need always be so for a well-run modern hospital of 30 or more beds. Smaller numbers (below 25) may be uneconomical, but they are essential in out-of-the-way places. Seasonal influences may affect the number of beds occupied in a general-practitioner hospital more than they do in general hospitals, so there should be no rigid allocation of beds though general practitioners must have priority. During healthy periods of the year some beds in general-practitioner hospitals can be used by consultants, as they often are now, as an overflow from the general hospitals. Any analysis of general-practitioner patients treated in these hospitals must take this into account.

It is hard for those who are not hospital administrators to appreciate the difficulties involved in all these staffing and costing problems. One sympathizes with those in charge, but we must decide how far administrative convenience and temporary staffing difficulties should be allowed to influence long-term planning or determine important future clinical policy. We are in danger of losing something of great value if we concentrate on huge "area" or "community" general hospitals and close down most of the small ones except in isolated places. Smaller general-practitioner hospitals are by no means always incompatible with efficiency and economy, and many of them are really needed.

(2) General-practitioner Annexes of General Hospitals

If it is accepted that the provision of general-practitioner beds is justified in rural areas there is no clinical reason why they should not be valuable in urban areas also. Some of these beds could be in self-contained annexes or wings of general hospitals, administered by the hospital service with the same safeguards as set out above; and there is much to be said for trying more experiments with these. When general practitioners admit their patients into such an annexe, co-operation and consultation with specialists should be even easier than it is in a separate general-practitioner hospital.

A difficult decision which will have to be made in large communities, such as industrial areas, will be whether all or only a selected proportion of the doctors who may want these beds can have them. There will not be enough for all, and discrimination may give rise to jealousies and other complications. Under such conditions there must be selection of a kind at first—some method of election or appointment, perhaps like that before 1948, depending as far as possible on clinical ability and hospital experience.

Even in a rural area a general-practitioner annexe to a near-by larger hospital might sometimes be as useful as a separate general-practitioner hospital; one advantage over an independent cottage hospital would be that nursing, ancillary, and domestic staff could be under the parent hospital, which could also organize the catering.

(3) General-practitioner Wards in General Hospitals

As a committee of the British Medical Association has pointed out, we have seen the pendulum swing from the time when general practitioners founded and ran most of the hospitals in this country, and every member of their consulting staffs did some general practice, to the time not long ago when family doctors were almost completely excluded from many of our hospitals (except to see their patients as privileged visitors), and very few of the younger consultants had any first-hand knowledge of general practice. Many beds previously used by general practitioners, even in the smaller hospitals, had by then been taken over by consultants, and several executive council areas and at least one city with a million inhabitants had no general-practitioner beds left at all. (Executive Councils' Association, 1959.)

This divorce of general practitioners from hospitals has turned out to be wrong, particularly from the patient's point of view. The pendulum of opinion is swinging back, now, towards the middle position. The value of an extension of general practice into hospitals is once more being appreciated, and the useful work general practitioners can do in them, how much they can learn, and what they can teach students about domiciliary and social medicine is being reassessed.

The Platt Report favoured "the continuation of experiments in the provision of general-practitioner wards in general hospitals." (Platt *et al.*, 1961 (f).) The main advantage of having these within the precincts of general hospitals must be the close liaison possible there between family doctors and consultants. Once again difficulties might arise in deciding which doctors in a large town should use these wards, and which patients should be admitted. General practitioners themselves should control the admissions (ideally with the sympathetic collaboration of the hospital's administrative officer, chairman of the medical staff committee, senior resident medical officer, and the matron), allocate the beds fairly and ensure that they do not become a dumping-ground for elderly, chronic, or difficult patients whom consultants no longer want in their wards. One would have to guard against such beds becoming too easily the *end* of lines of investigation or treatment, instead of the *beginning*, where most of them should be. An increase in partnerships, or better still group practices, would make certain that practice work was not interrupted by the temporary absence of one partner. The hospital patients of a single-handed doctor who was away would usually be looked after by the colleague who stood in for him.

Good family doctors on the staff of a teaching hospital, perhaps looking after some of their own patients, would enable students to see something of the types of cases G.P.s have to treat, not all of which would be admitted in the ordinary way to a hospital attached to a medical school. They could see, too, the sort of co-operation that is needed between family doctors and specialists. Experienced general practitioners, while gaining much themselves, would have something of value to impart to students, junior medical staff, nurses, and consultants.

(4) General-practitioner Beds in Private Hospitals and Nursing-homes

In the reforming atmosphere after the second world war there were those who thought that private practice would soon disappear and that all private hospital beds would be taken over by the State. But the larger and more unwieldy an organization like the National Health Service becomes, and the more the responsibility for running it devolves on one man, or on one department dependent on the Treasury, the greater is the need for other experiments carried out by more flexible organizations and by private individuals. In his first major speech as Minister of Health, Mr. Enoch Powell said:

> "The great machine is bound to have a one-track mind, to be cumbrous and unresponsive, to abhor variations, to be insensitive to the world around it. These disadvantages apply anywhere; but in the field of health and medical care they could be specially dangerous." (Executive Councils' Association, 1960.)

In his more recent Winchester Address he said:

> "If anyone wishes to add . . . how important it is that there should always be a substantial amount both of research and of treatment which is not financed by the State and for which the Minister is not responsible, I should be the last person to argue against him." (Powell, 1961 (b).)

The British Medical Association has constantly recognized the importance of maintaining and encouraging the existence of private practice side by side with the National Health Service.

In this country, private hospitals are financed directly by patients or indirectly through non-profit-making contributory insurance schemes which shield their subscribers from heavy expenses arising from unexpected illness, accidents, or operations. Some of these schemes cover a person not only for specialist and hospital services but also for general-practitioner treatment.

A private hospital usually offers advantages to a patient which he may not always get in a State-financed hospital. He can often be admitted at once or on the day of his choice. He can generally have a private room. His family doctor can visit him regularly, prescribe some part of the treatment, and discuss freely with him his troubles and difficulties—providing a happy liaison between patient, consultants, and nursing staff. A patient can have the consultant of his or his doctor's choice; he can talk to him frequently, freely, and if necessary alone—a most important asset. Nursing may sometimes be more personal in a private hospital. Other less obvious advantages are that visitors can come and go easily; a telephone or a secretary by the patient's bedside may enable him to do some useful work; and the food may be better, with more choice and more attractively served. No one of these points taken alone is of paramount importance; but added together they may mean a great deal to an ill patient, and are advantages for which many people are willing to pay, through insurance or otherwise.

Every patient who is admitted to a private hospital bed saves the National Health Service a considerable sum of money, and lessens the strain on N.H.S. doctors and hospitals. Many people in Great Britain who use the N.H.S. attend private doctors, too, for some of their medical care. Members of Parliament and Cabinet Ministers have sought medical advice outside the N.H.S. during the past ten years, and even Ministers of Health have been known to do so. Some firms insure their employees for private treatment to save time wasted in waiting for admission to hospital. Already one-quarter of the doctors resident and working in Great Britain have insured themselves and their families for treatment in private hospital beds. While appreciating the good points of the National Health Service, with the great benefits it has brought, we should not be ashamed of our privately financed medical care. We should accept it and improve it, and welcome it as a necessary and important adjunct to the health services. Hospital beds outside the N.H.S. will play in future an increasingly important part in it. With the recent rapid extension of private medical insurance their number and distribution should be re-examined: in some places they are not fully occupied; in others, more are needed.

Conclusions

The two main reasons for a family doctor to work in a hospital are (1) to give continuing personal care to some of his own patients admitted with conditions which he can properly treat himself and which do not need full consultant supervision; and (2) to promote his continuing education as a clinical assistant for one or two sessions a week, with or without a special interest, so that he may be a better doctor to his own patients. He can help the hospital service greatly in both these ways. With the present shortage of general practitioners, proposals that they should work in hospitals, on a large scale, for any other reasons than these should be examined extremely carefully.

Recent trends, and information from various sources, suggest that moves may be afoot to deprive general practitioners of the few hospital beds (apart from normal midwifery) for which they are still responsible, and to offer them a number of appointments in hospital assistant grades with *daily* routine duties caring for the patients of other doctors. In this review reasons are given for believing that general practice would be seriously handicapped by either of these measures.

It is now appreciated that the National Health Service was planned, its rules and regulations laid down, and its financial arrangements made before the proper role of the general practitioner was understood. A special committee of the Central Health Services Council has been set up recently to study the future scope of general practice, and the necessary adjustments in the organization and finance of general-practitioner hospital beds should be made as soon as possible. Family doctors with adequate experience should be encouraged to treat, in hospital, suitable patients from their own practices, with close and efficient consultant cover in an advisory rather than a supervisory capacity. The number of general-practitioner beds should be increased gradually wherever this is practicable—in general-practitioner

hospitals in rural districts (and in some urban areas), in annexes or wards of general hospitals in large towns and cities.

The hospital services are greatly helped, and the continuing education of general practitioners is advanced, when they work in wards or out-patient departments of larger hospitals as "clinical assistants" for not more than one or two sessions a week under the supervision of consultants. More of these appointments are needed. Senior and junior grades of clinical assistantships should be officially recognized and introduced into specialist teams with different rates of pay and differing degrees of responsibility. The senior grade should be long-term appointments, perhaps for several years, in which general practitioners with special interests and experience could play a really useful part in the work of hospitals, in a more important and responsible role than that of clinical assistants at present. The junior grade could be short-term appointments for those learning to develop special interests or striving to maintain their continuing education.

These measures should go far towards closing any "rifts" or "gaps," where they exist, between family doctors and consultants and between general practice and hospital work; and it should lead to better and much-needed integration, and happier co-operation, between these two great branches of our profession.

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NEUROPATHY AFTER INTAKE OF THALIDOMIDE (DISTAVAL)

BY

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There have been recent reports of cases of peripheral neuritis attributed to a toxic effect of thalidomide ("distaval") (Florence, 1960; Burley, 1961; and Kuenssberg *et al.*, 1961). This paper is based on 13 patients who developed neurological disturbances while taking this drug as a hypnotic. The neuropathy is interesting, with some evidence that abnormalities are not confined to the peripheral nervous system.

Clinical Features

Details of the cases are shown in the Table. The ages of the patients ranged from 37 to 76 years. All had taken thalidomide regularly for 2 to 18 months before the onset of symptoms. In most cases the dose had been the usual one of 100 mg. each night, although a few had taken higher doses (up to 400 mg. nightly) and one had had only 50 mg. nightly.

The earliest symptoms were paraesthesiae and numbness in the feet followed by similar symptoms in the hands, usually a few months later. These disorders of sensation were the most prominent feature in all cases, and weakness of the limbs was a minor complaint in five and of major importance in only one. Seven patients complained of cramps in the legs as one of their most distressing symptoms.

All patients were carefully cross-examined for evidence of other neurotoxic exposure. Only one (Case 9) gave a history of excess alcohol consumption, after the onset of a depressive illness. He had taken a bottle of spirits daily for 16 months before the onset of symptoms. However, in this patient, many features, such as proximal weakness in the limbs, increased reflexes, and equivocal plantar responses, indicated that he was not suffering from an alcoholic peripheral neuritis. No other aetiological factors could be elicited from the history of the remaining patients.

Neurological examination showed altered superficial sensation of varying extent in the distal parts of the limbs in all patients. Eleven showed depression of all

forms of superficial sensation in a stocking-and-glove distribution, light touch being the most severely affected. In two there was marked overreaction to pin-prick and touch in a similar distribution. Vibration sensation was impaired in four of the more severely affected patients and position sense in one. Weakness of the limbs was present in seven—in two peripherally, in three involving proximal muscle groups, and in two there was mild diffuse weakness of the legs. Tendon reflexes were increased in eight patients, normal in two, and generally depressed in three. Complete abolition of a pair of reflexes occurred in three cases, as symmetrical absence of the ankle-jerks, but in only one of these was there depression of the other reflexes. The plantar responses were flexor in seven patients, equivocal in five, and extensor in one.

General examination revealed two other abnormal features in some patients. Redness of the palms, similar to that commonly associated with liver disease, was present in four, and three had brittle and broken fingernails and toenails, which had developed since the onset of their neurological symptoms. Both these manifestations were of early occurrence.

Two cases are described in detail to illustrate the features that we have come to accept as typical of the natural history of this condition.

Case 6

A married woman aged 54 began taking 100 mg. of thalidomide nightly in August, 1958. In June, 1959, numbness and paraesthesiae developed in the feet, and a month later similar symptoms developed in the hands. At the same time she noticed redness of the palms. The symptoms gradually spread to involve the whole of both lower limbs up to the groins. In September, 1960, she began to have frequent and severe cramps in the legs.

On examination in February, 1961, the only abnormality in the motor system was constant fasciculation in the calves and occasional fasciculation in the quadriceps muscles. There was no weakness. Tendon reflexes were normal, except the ankle-jerks, which were depressed; the plantar responses were flexor. Impairment of superficial sensation over the hands extended up to the wrists, and there was hypersensitivity to touch and pin-prick over the whole of both lower limbs up to the mid-thighs. Her palms were red and she had broken fingernails and toenails. Two months after stopping thalidomide there had been no change in her symptoms or signs.

Case 2

A spinster aged 50, the most severely affected patient, took 100 mg. of thalidomide about four times a week from December, 1957, to August, 1959, and from that time until December, 1960, she took 300 mg. about four times a week.

Clinical Features and Investigations

Case No.	Age and Sex	Nightly Dose (mg.)	Time before Symptoms (Months)	Duration of Symptoms before Examination (Months)	Motor Signs	Reflexes	Extent of Altered Superficial Sensation	Other Features	C.S.F. Protein (mg./100 ml.)	Nerve-conduction Tests
1	56 F	100	9	8	None	Increased. Pl ? ?	To wrists and mid-calves	Numbness right side face	—	
2	50 F	100–300	8	24	Severe wasting proximal leg muscles. Proximal arm weakness. Severe leg weakness proximal > distal	Increased. AJ — — Pl ↑ ↑	Fingers. Up to groins	Vibration depressed legs. Position defective toes	70	Right lateral popliteal motor velocity normal. Left median sensory potential reduced
3	75 F	100	Few	18	Mild weakness, feet	Depressed. Pl ↓ ↓	Fingers and feet	—	25	Left median sensory potential reduced
4	37 M	100	12	16	None	Increased. AJ ± ± Pl ↓ ↓	Fingers and toes	Leg cramps. Nails breaking	110	Right median sensory potential reduced. Right ulnar sensory potential absent
5	56 F	100	4	31	Wasting hands. Diffuse leg weakness proximal > distal	Increased arms. KJ ± ± AJ — — Pl ↓ ↓	To wrists and mid-calves	Leg cramps. Nails breaking	60	Right lateral popliteal motor velocity normal. Right lateral popliteal sensory potential absent
6	54 F	100–200	10	20	Fasciculation calves	Normal. Pl ↓ ↓	To wrists and mid-thighs	Red palms. Leg cramps. Nails breaking	60	Right median motor velocity normal. Right median sensory potential absent
7	48 F	100	8	5	None	Increased. Pl. ↓ ↓	Feet	Leg cramps	—	Left median sensory potential normal. Left lateral popliteal sensory potential absent
8	49 F	100	11	14	Mild diffuse leg weakness	Increased. Pl ? ?	,,	Reduced vibration sensation feet. Leg cramps	—	
9	57 M	100	16	8	Mild proximal weakness arms and legs	Increased. Pl ? ?	Fingers and toes	Red palms. One bottle of spirits a day	60	Right median sensory potential absent. Left lateral popliteal sensory potential reduced
10	76 M	100	7	14	Moderate wasting and weakness hands	Depressed. Pl ↓ ↓	To knees	Vibration sensation absent to iliac crests. Red palms	30	
11	68 F	200	18	18	Mild wasting hands. Mild proximal arm weakness	Depressed. AJ — — Pl ? ↓	Fingers and to mid-calves	—	—	Right median motor velocity normal. Left lateral popliteal motor velocity normal. Right median sensory potential absent
12	69 M	100–400	2	24	None	Normal. Pl ↓ ↓	Hands and to groins	Vibration sensation impaired to iliac crests. Leg cramps	70	Right median motor velocity normal. Right median sensory potential absent
13	54 M	50	9	11	,,	Increased. Pl ? ↓	Hands and to mid-shin	Red palms. Leg cramps	45	

Pl = Plantar responses. AJ = Ankle-jerks. KJ = Knee-jerks.

In September, 1958, mild paraesthesiae and tenderness in the legs developed, but these symptoms did not become severe until March, 1959. In June, 1959, she had difficulty in climbing stairs, and subsequently the weakness in the legs gradually increased. In June, 1960, paraesthesiae in the hands developed.

When first seen (August, 1960) she had slight wasting of the small muscles of the hands and mild proximal weakness in the upper limbs. There was noticeable wasting and weakness of the muscles of the lower limbs, affecting particularly the glutei and thigh muscles. All reflexes were increased, except the ankle-jerks, which were absent. Abdominal responses were normal and plantar responses equivocal. There was impairment of superficial sensation over the fingers and in the lower limbs up to the knees. Vibration and position senses were normal in the upper limbs. Vibration sense was absent in the feet and there was a gross defect in position sense in the toes. Over the next six months her condition deteriorated and she was unable to raise either leg off the bed. The plantar responses became extensor. Thalidomide was stopped in December, 1960, and rapid improvement in power began immediately. Three months later she was walking well and had no weakness in the upper limbs. The hip flexors had regained 80% of their power and there was a corresponding increase in power in the other muscle groups. There had been little change in the sensory symptoms and signs.

Investigations

Haemoglobin values, blood-sugar levels, and liver-function tests were normal in all patients; one (Case 9) had an eosinophilia of 14%, but he was a known asthmatic. The cerebrospinal fluid was examined in nine patients, and was normal except for the protein content, which ranged from 25 to 110 mg./100 ml. and was over 50 mg. in five cases. Pyruvate-tolerance tests on five patients gave values within the normal range. Radioactive iodine studies were carried out on four, with normal results in three. One patient with no evidence of myxoedema had a reduced 24-hour uptake of radioactive iodine (16%), a finding which has been previously described during thalidomide medication (Murdoch and Campbell, 1958).

Muscle biopsies were performed on two patients (Cases 2 and 6), and both showed changes characteristic of denervation. One of them had noticeable wasting and weakness of the biopsied muscle (quadriceps) and the other had no clinical motor abnormality except fasciculation in the calves (the biopsy was taken from the tibialis anterior).

Studies of nerve conduction were carried out on nine patients. Velocity of motor conduction was estimated by the technique described by Thomas *et al.*, (1959). Sensory conduction in the upper limb was studied by the technique described by Gilliatt and Sears (1958) and in the lower limb by the technique described by Gilliatt (1961). In chronic peripheral neuritis the velocity of motor conduction may be much slower than normal and sensory potentials may be reduced in amplitude or absent (Gilliatt and Sears, 1958). The velocity of motor conduction was measured in five patients, in three of them on nerves supplying muscles which were clinically weak. All gave values within the normal range. Estimation of motor velocity depends upon conduction in the fastest surviving motor fibres, and normal results of the sort obtained here are not incompatible with moderate involvement of motor nerves.

Sensory-nerve conduction was abnormal in the distal segment of the median nerve in seven of the eight patients in whom this was tested and in the lateral popliteal nerves of the three patients examined. There is therefore unequivocal electrical evidence of involvement of peripheral sensory-nerve fibres.

Discussion

As a large number of people now take thalidomide regularly, and as peripheral neuritis of unknown aetiology is a not uncommon disorder, it is at first a little difficult to be sure of the significance of this association. Our patients developed sympoms from 2 to 18 months after starting regular medication, which is suggestive of an aetiological relation, and this is supported by many of the unusual clinical features that were common to the group. A careful study of our cases has shown that only one patient had taken any substance other than thalidomide to which neuronal damage could be attributed. In this case the intake of alcohol had been for a relatively short time and the signs were very different from those commonly found in alcoholic peripheral neuritis. It seemed reasonable, therefore, to attribute the neuropathy here described to thalidomide.

This suggestion would be strongly supported if recovery occurred on withdrawal of the toxic substance. While we have seen a spectacular recovery of power in the one patient with severe motor affection the changes in the sensory symptoms and signs have so far been slight, though those that have occurred have all been in the direction of improvement and none have continued to deteriorate after withdrawal of thalidomide. It is unfortunately true that slow and variable improvement after withdrawal of toxic substances is well known in peripheral neuritis; therefore it is not surprising to find this disparity between motor and sensory recovery and the great delay on the sensory side. Our longest follow-up after withdrawal has been six months, and this period is far too short to determine whether irreversible changes have taken place. We have heard of mild cases that have recovered completely a few weeks after withdrawal (D. Burley, 1961, personal communication), but have not seen any ourselves.

The sensory symptoms and signs in these patients are characteristic of peripheral neuritis, and electrical studies have confirmed that conduction in peripheral nerve fibres may be abnormal. Our two biopsy studies showed that the lower motor pathway was involved, even though in one case there was no clinical evidence to suggest this. It is, however, not possible to determine the site of the lesion by this means. The clinical findings show that damage is not confined to peripheral nerves. Although peripheral paraesthesiae may increase the deep reflexes in a non-specific fashion, such increase in the presence of peripheral nerve involvement with equivocal plantar responses (frankly extensor in one) indicates that the upper motor neurone pathways may be affected. The predominance of proximal muscle weakness in some cases also suggests that the syndrome is not a simple peripheral neuritis.

We have not found any reason why few patients succumb to thalidomide when the population at risk is relatively large. So far the onset seems to be haphazard. The wife of one of our more severely affected patients took thalidomide in the same dose and for the same time as the patient, but did not develop any neurological symptoms other than fleeting peripheral paraesthesiae. Some psychiatric patients have had very large doses without developing obvious neurological disorder.

However, in our patients it was those who had taken the drug for the longest time who were the most severely affected. None of our patients had any blood relations taking thalidomide, so we cannot speculate on the possibility of susceptibility to thalidomide being on a genetic basis.

Little is yet known about the metabolism of thalidomide in the body after absorption. Its mode of action in producing both the desirable sedative and the undesirable toxic effects is unknown. Our investigations have not thrown any light on the mechanism of this neuropathy. There is no evidence as yet to suggest any interference with carbohydrate metabolism or other known enzyme mechanisms, though further study along these lines will be made if any new cases are seen. It is interesting that similar toxic effects have not been reported in patients taking glutethimide ("doriden"), which is chemically very similar. It is also interesting that several observers suggested, when seeing some of these patients before thalidomide toxicity was suspected, that the clinical features resembled those of neuropathy associated with malignant disease.

Two further articles have recently appeared in the German literature (Raffauf, 1961; Scheid *et al.*, 1961) in which 14 and 9 cases with neurological abnormalities attributed to thalidomide toxicity have been reported. The clinical features of these cases are similar to those reported here.

Summary

The neurotoxic effects of thalidomide in 13 patients are described.

Symptoms developed in from 2 to 18 months after starting regular medication, in doses varying from 50 to 400 mg. nightly.

The disorder was predominantly a sensory peripheral neuritis, but there was evidence of more widespread effects on the nervous system.

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The Derbyshire village of Eyam recently held its Plague Commemoration Service in the same spot where their forefathers met for church services nearly 300 years ago when plague killed hundreds of villagers. Tradition has it that the disease was brought to the village in a box of clothing that came from London in 1665 after London's great plague. The address was given from the rock platform once used by Rector William Mompesson, who was the village leader at the time. He had closed the church because of the risk of infection. Many of the plague victims lie buried in the fields near the spot where the service was held. (*Northern Whig*, August 28.)

VENEREAL DISEASE IN ADOLESCENTS

BY

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Recently attention has been focused on reports of increasing promiscuity among adolescents. As an index of this promiscuity much has been made, both here and in America, of the "increasing incidence of venereal disease" in the younger age-groups. King and Wisdom (1960) have discussed adolescents who attended for diagnosis at a venereal disease clinic in London in 1958 and 1959.

The *Concise Oxford Dictionary* defines an adolescent as "a person growing up between childhood and manhood (14–25) or womanhood (12–21)." Common usage restricts the top limit of the age-groups to the twentieth year.

The present factual study was planned because of the widespread concern over published reports and because of the absence in Britain of any recent comparative survey of venereal disease involving the younger age-groups. No attempt has been made to analyse the reasons underlying any increase shown, apart from drawing attention to some of the factors that have influenced the general trends of venereal disease during the period under review. The study was undertaken in Manchester and Salford, where, until 1954, two venereal disease clinics served a large part of the area. These were amalgamated in 1954 at St. Luke's Clinic, which now serves the same area. The age-group chosen was 15–19 years in both sexes. Accurate statistics are not available, but Table I shows the estimated adolescent population in Manchester and Salford in the years studied. It will be noted that a considerable decrease in the numbers at risk has occurred.

The records of patients attending the two clinics in 1938, 1939, 1949, and 1950, and St. Luke's Clinic in 1959 and 1960 have been studied. The years 1938 and 1939 were preferred to 1939 and 1940 because of the increasing influence of wartime conditions in the latter year. Only new patients who had had no previous treatment were included.

There are now suggestions that many genital infections formerly classified as non-venereal should be included among venereal diseases. Whether this is desirable is a moot point, since the lay mind tends to dwell too much on the venery and not enough on the disease. In a significant proportion of cases many such conditions, although genital and perhaps sexually acquired, are not associated with promiscuity. To make a true comparison over the years under review, only cases of early infectious acquired syphilis and acute gonorrhoea were included. The number of infections in each year was used, not the number of individuals involved.

TABLE I.—*Estimated Adolescent Population (15 to 19 Years), Manchester and Salford*

Year	Manchester		Salford		Totals	
	Males	Females	Males	Females	Males	Females
1938	31,565	33,517	8,100	8,100	39,665	41,617
1939	31,401	33,210	8,000	8,100	39,401	41,310
1949	22,580	23,314	5,850	5,900	28,430	29,214
1950	22,784	23,431	4,450	5,600	28,234	29,031
1959	21,963	22,140	5,400	5,400	27,363	27,540
1960	21,788	21,875	5,600	5,600	27,388	27,475

It should be noted that statistics supplied by venereal disease clinics can only show trends in the population and do not represent an accurate incidence of the disease.

Results

Table II summarizes the results. The findings have been grouped under the headings of syphilis and gonorrhoea and combined to give a total of venereal infections. The number in the adolescent age group is compared with the total number of infections in all age-groups. Table III gives the ages of infected adolescents in 1938 and 1960, and Table IV shows the distribution of venereal infection in all age-groups for the same years. It should be noted that in Table IV five-year groups are used till age 29, thereafter ten-year groups.

In 1938 the number of infections occurring in males aged 15–19 was 39, or 3.1% of the 1,227 males of all ages treated. The proportion rose slightly in 1939 and fell in 1949, coincident with the general decline in venereal disease and also possibly because of the large numbers of young men on active service overseas at that time. In 1959, in the adolescent group, there were 62 (4.8% of 1,249), and in 1960 56 (4.9% of 1,123) treated. In the two decades, therefore, there has been an increase of 58% in the proportion of venereal infections treated in adolescent males.

In females, the increase is more dramatic. In 1938, of a total of 229 infections treated in females, 16 (6.9%) occurred among adolescents. In 1939, coincident with rumours of war, and war, 225 infections in females were treated, and of these 23 (10.2%) were in adolescents. Apart from a fall in 1950, the proportion of younger women treated has climbed steadily, until in 1959, of 315 infections, 75 (23.8%) were in adolescents, and in 1960 an almost exactly similar number. The proportion of infections treated in adolescent females has in the two decades increased by 345%.

Table III shows no significant trends except that, as would be expected, more venereal infections occurred in the older adolescents of both sexes. Table IV shows for 1960 an increase in the proportion of males infected in the 20–24 age-group: 30.8% of the total as compared with 22.4% in 1938. In the females the significant feature is the shift of the bulk of the venereal disease to the younger age-group.

Of 56 venereal infections in adolescent males treated in 1960, only 37 (66%) occurred in youths born in the United Kingdom. Of the remainder, 9 (16%) were in white immigrants from Eire, France, Turkey, Cyprus, and Mexico; 9 (16%) were in coloured immigrants from the Caribbean area and West Africa; and 1 (1.8%) was in a Pakistani.

Of 78 venereal infections treated in adolescent girls during 1960, only 4 (5.1%) were in immigrants—all from Eire. It is noteworthy that this series of adolescent females contained no coloured girls. In the same group, however, 13 (16.6%) infections were known to have been transmitted to or from coloured male consorts. Twelve of these infections were in girls from the United Kingdom and one in a girl from Eire. Many girls are reluctant to divulge details of consorts, and in 42 (53.8%) of the group no reliable information regarding consorts was available.

In males in 1960, the 56 infections in adolescents occurred in 51 individuals. Of the 5 (9.8%) who had repeat infections, two were from the United Kingdom and each had one further infection during the year, as had one Jamaican and one Mexican. One from the United Kingdom had two further infections during the year. In addition, the Jamaican had been treated for gonorrhoea on one occasion during the year at a near-by clinic.

The 78 infections in adolescent females during 1960 occurred in 72 individuals. The 6 (8.3%) who repeated were all from the United Kingdom and each had one further infection during the year.

TABLE II.—*Incidence of Venereal Infection in Adolescent Males and Females*, 1938–60

Year	Early Syphilis			Gonorrhoea			Total		
	Total All Ages	15–19		Total All Ages	15–19		Total All Ages	15–19	
		No.	%		No.	%		No.	%
				Males					
*1938	141	4	2·8	1,086	35	3·2	1,227	39	3·1
*1939	141	2	1·4	916	39	4·2	1,057	41	3·8
*1949	247	6	2·4	1,064	28	2·6	1,311	34	2 5
*1950	133	—	—	897	27	3·0	1,030	27	2·6
1959	5	1	20	1,244	61	4·9	1,249	62	4·8
1960	6	—	—	1,117	56	5·0	1,123	56	4·9
				Females					
*1938	20	1	5	209	15	7·1	229	16	6·9
*1939	27	4	14·8	198	19	9·5	225	23	10·2
*1949	59	11	18·6	230	36	15·6	289	47	16·2
*1950	38	7	18·4	146	20	13·6	184	27	14·6
1959	2	—	—	313	75	23·9	315	75	23·8
1960	3	—	—	326	78†	23·8	329	78	23·7

*Combined figures for Regent Road Clinic, Salford (since closed) and St. Luke's Clinic, Manchester.

† This figure includes one girl of 14 years 9 months.

TABLE III.—*Age of Infected Male and Female Adolescents*, 1938 *and* 1960

		Age in Years					Total
		15	16	17	18	19	
				Males			
1938	No.	1	4	5	13	16	39
	%	2·5	10·2	12·8	33·3	41·0	100
1960	No.	1	—	7	23	25	56
	%	1·7	—	12·5	41·0	44·6	100
				Females			
1938	No.	1	3	4	1	7	16
	%	6·2	18·7	25·0	6·2	43·7	100
1960	No.	1*	4	16	25	32	78
	%	1·2	5·1	20·5	32·0	41·0	100

*This girl was aged 14 years 9 months.

TABLE IV.—*Proportion of Infections in Males and Females by Age Groups*. 1938 *and* 1960

		Age Groups						Total
		15/19	20/24	25/29	30/39	40/49	50+	
					Males			
1938	No.	39	276	353	395	110	54	1,227
	%	3·1	22·4	28·4	32·1	8·9	4·4	100
1960	No.	56	347	297	319	89	15	1,123
	%	4·9	30·8	26·5	28·4	7·9	1·3	100
					Females			
1938	No.	16	72	48	75	14	4	229
	%	6·9	31·4	20·9	32·7	6·1	1·7	100
1960	No.	78*	124	66	49	10	2	329
	%	23·7	37·6	20·0	14·8	3·0	0·6	100

*This figure includes one girl of 14 years 9 months.

Discussion

The above figures and the trends which they illustrate indicate an increase in venereal infections in adolescents during the period under review, especially in females (six times the increase in males). Practically one-quarter of the venereal infections in females treated in St. Luke's Clinic in 1960 occurred in this young group, and in males one-twentieth of the total was in adolescents.

A general increase in venereal infections (especially gonorrhoea) has been reported by the treatment centres during the past few years. Some of this is due to factors which can readily be understood and which also play a part in the increase among adolescents.

Propaganda and publicity regarding venereal diseases have brought their existence to the notice of adolescents. Propaganda may not have a deterrent effect on their sexual adventures, but at least it informs them of the possible nature of their illness when it is contracted. They then seek advice early, often in the secrecy of a venereal disease clinic, rather than from their own practitioner, who may know the family intimately.

Recently, much more energetic steps have been taken to bring to treatment the source or any possible contacts of venereal infection. In St. Luke's Clinic, both contact slips and personal visits by a full-time social worker have been used. Neither method has been outstandingly successful, but some results have been obtained and female patients who might otherwise have gone untreated have been brought to the clinic. In females also the improvement and general use of cultural methods have resulted in more efficient diagnosis of gonorrhoea.

During national service adolescent males who contracted venereal disease were treated in military establishments. The run-down of national service during 1959 and 1960 may have influenced the number of young men treated in civilian clinics during these years.

Probably the most important single factor in the general increase of venereal infections in this country in recent years has been large-scale immigration (Watt, 1958). Some immigrants from Europe and Asia, especially students, waiters, and domestic helps, are adolescents.

In the mid-1950s immigration of West Indians and West Africans began and has continued on an increasing scale. Male immigrants greatly outnumber females and venereal disease has become very prevalent among the coloured males. Many become infected shortly after arrival in this country and become habitual attenders at venereal disease clinics. The vast majority of these coloured immigrants are in the older age-groups but some are adolescents.

This study has shown that in 1960 one-third of venereal infection in adolescent males occurs in immigrants. In 1956, in the same clinic, it was shown that over half the gonococcal infections in males of all age-groups occurred in immigrants (Watt, 1958). In white female adolescents a significant proportion of infection occurs after association with coloured males, all of older age-groups than the girls themselves. The exact incidence of such infection is difficult to determine.

In 1938, at the dawn of the chemotherapeutic era, only certain cases of gonorrhoea were as yet being treated with the sulphonamides, and infection entailed long weeks or months of therapy. As has been stated previously (Watt, 1958), this meant that in any one year one individual was limited in the number of gonococcal infections that could possibly be acquired. Because of the speed and efficacy of modern treatment, and since, at least for the present, gonorrhoea is the major problem, multiple reinfections have tended to increase the number of infections notified by the treatment centres.

In adolescents, as indeed in many adults, glib reassurance by the original consort that there is nothing wrong or that treatment has been obtained may lead to early resumption of sexual relations and further infection. Repeat infections do not appear to be a significant feature in the increase of adolescent venereal infection, and this may reflect again the relatively small proportion of coloured immigrants in the group.

Conclusions

The reasons given above may account for some of the increase in venereal infection among adolescents but cannot by themselves be held totally responsible. If it is accepted that trends in venereal disease mirror trends in promiscuity the inevitable conclusion must be that the increase in infection among adolescents during the period under review represents increased and possibly increasing adolescent promiscuity. Discussion of the reasons for this is outside the scope of this study.

The results are representative of trends in one highly industrialized urban area with a large immigrant population, and further studies in different areas might throw more light on the problem.

Summary

A comparative study of venereal infections found in adolescents reporting to a venereal disease clinic has been described. The period under review spanned two decades, from 1938 to 1960.

Only patients suffering from early syphilis and acute gonorrhoea have been included. Patients with less well-defined genital infections and rarer infections have been excluded.

The study indicates trends and not the incidence of disease.

Of 1,227 males treated in 1938 for venereal infections, 39 (3.1%) were adolescents. In 1960, of 1,123 males treated, adolescents numbered 56 (4.9%).

Of 229 females treated in 1938 for venereal infections, 18 (6.9%) were adolescents. In 1960, of 329 females treated, adolescents numbered 78 (23.7%).

Adolescents are forming an increased and perhaps increasing proportion of individuals treated for venereal infections. The increase is most marked in females, and in 1960 adolescents comprised almost a quarter (23.7%) of the females treated in the clinic.

General factors influencing this increase are described but cannot by themselves be held entirely responsible. Increasing promiscuity may play a major part. The increase is not due to an increase in the numbers at risk.

Further similar studies are suggested to determine the extent of the problem.

My thanks are due to Dr. C. Metcalfe Brown, Manchester, and Dr. J. L. Burn, Salford, who supplied the estimates of population.

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The White Fathers' Mission in the Northern Province of Nyasaland plans to spend about £27,000 on a new 28-bed hospital and house for the medical staff at Mzuzu. Work on the hospital is expected to start shortly. It is intended to use the hospital as a training school for African nurses.

PROGESTERONE AND NORETHISTERONE IN CYCLICAL OEDEMA AND ASCITES

BY

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The action of progesterone and its synthetic analogues on the reproductive organs has been extensively studied, but the effects of these substances on electrolyte metabolism have received less attention. Thorn and Engel (1938) and Gaunt and Hays (1938) reported that progesterone caused sodium retention in animals such as the dog and ferret, but Landau *et al.* (1955, 1957a, 1957b) have presented evidence that in man it increased sodium excretion. Landau and Lugibihl (1958) further demonstrated that in patients suffering from Addison's disease an increase in urinary sodium could only be obtained with progesterone if aldosterone were given concurrently, and concluded that the action was that of an aldosterone antagonist.

In the treatment of the syndrome of premenstrual tension, of which recurrent oedema is the most important objective feature, progesterone has for many years been advocated, largely on the hypothesis of an oestrogen–progesterone imbalance (Israel, 1938). Later the oral synthetic progestational compounds, such as ethisterone (Greene and Dalton, 1953) and, more recently, norethisterone (Dalton, 1959) have been used on account of their greater convenience. It therefore seemed useful to investigate the action of progesterone and norethisterone on urinary electrolyte excretion in cases of oedema related to the menstrual cycle. It was also thought to be of interest, in view of its reported anti-aldosterone action, to study the effect of progesterone in hepatic cirrhosis with ascites, since in this condition there is marked sodium retention and aldosterone secretion is usually raised (Dyrenfurth *et al.*, 1957).

Material and Methods

Four women suffering from cyclical oedema were studied. In each case evidence of renal, cardiac, or gastro-intestinal disease was absent and the plasma-protein level was normal. All suffered to a varying extent from such symptoms as headache, depression, abdominal distension, and painful breasts, and all showed some degree of generalized oedema accompanied by rapid changes in weight. Two patients (Cases 2 and 3) were menstruating regularly and the symptoms were maximal during the two weeks before menstruation. Two others (Cases 1 and 4) had a similar history of premenstrual oedema, but, although the menopause had supervened at respectively one year and two years previously, they continued to be troubled by oedema which still tended to be cyclical in character.

The fifth patient, a man aged 56, had a history of excessive consumption of alcohol and was suffering from cirrhosis of the liver with marked ascites.

All patients were maintained on a constant intake of sodium, potassium, and fluid volume, and at least five days were allowed on this regime before beginning the study, which in the case of the premenopausal women occupied the latter half of the cycle. Progesterone was administered intramuscularly in doses ranging from 75 to 200 mg. daily for three or four days. Norethisterone was given orally in doses of 10 mg. three times daily for a similar period.

Results

Figs. 1–5 show that in all subjects an increase in urinary sodium excretion occurred during the administration of progesterone. The greatest effect was seen in Case 4 (Fig. 4) where on an intake of 22 mEq a maximum sodium output of 100 mEq/day was seen, using 200 mg. of progesterone daily. In Cases 1 and 2 (Figs. 1 and 2) an excretion of 50 mEq was seen, using 100 mg. of progesterone. In most cases the effect began to diminish by the fourth day of treatment, and after the cessation of progesterone a rebound retention of sodium occurred in every instance. Potassium excretion fell to a variable extent, and in three cases to more than 20 mEq below control levels. Chloride excretion (Fig. 4) increased in association with the sodium, but the loss was not so great.

In Fig. 1 the effect of chlorothiazide in a dosage of 2 g. daily is shown; approximately twice the level of sodium excretion was obtained as with 100 mg. of progesterone, although potassium excretion was increased. In contrast with the effect of progesterone, norethisterone in doses of 30 mg. daily caused no increase in sodium excretion; in fact after four days there was slight sodium retention in Cases 3 and 4 (Figs. 3 and 4). In Cases 1 and 2 (Figs. 1 and 2) the administration of norethisterone coincided with a period of rebound sodium retention which, however, seemed to be intensified. Norethisterone produced a decrease in potassium excretion in three cases, although in the fourth instance no significant fall occurred. The urine volume altered in relation to the degree of sodium excretion, and where this was only moderate no marked change resulted.

The effect of progesterone on the cirrhotic patient (Fig. 5) was similar to that seen in the previous patients, though the degree of sodium loss was not striking. In this case, however, control values of less than 1 mEq/day indicated that sodium retention was intense; in fact the sodium loss obtained with 200 mg. of progesterone daily was very similar to that resulting from 400 mg. of the aldosterone antagonist spironolactone, and the effect on reducing potassium excretion was also similar. A single injection of mersalyl produced no greater sodium excretion, but in this instance potassium was increased.

Discussion

The increase in urinary sodium, which was observed during the administration of progesterone to cases of cyclical oedema and ascites, is in agreement with the results reported by Landau *et al.* (1955, 1957a, 1957b) on patients without oedema. Potassium excretion was more consistently diminished in the cases described here, but this is in keeping with the view that progesterone acts as an aldosterone antagonist and is confirmed by the similar results obtained with spironolactone. In contrast, the diuretics chlorothiazide and mersalyl caused an increase in both sodium and potassium excretion. The tendency to salt retention shown by norethisterone in doses which have a full progestational effect on the endometrium (Swyer, 1959) emphasizes the

necessity of separating the effects on the uterus from those on general metabolism when considering the therapeutic use of these compounds.

The results obtained in this study provide some rational basis for the reported efficacy of progesterone in the treatment of premenstrual tension (Greene and Dalton, 1953) and also for the fact that norethisterone is often ineffective in cases where progesterone was beneficial (Dalton, 1959).

It is tempting to assign a physiological role to progesterone as a possible moderating influence on aldosterone activity in the maintenance of electrolyte balance in the normal female, but this cannot be adduced from the present study since the amounts of progesterone used are greater than those reached during the menstrual cycle and are of the order found in the latter half of pregnancy (Pearlman, 1957). Landau *et al.* (1957b), however, have reported some effect with

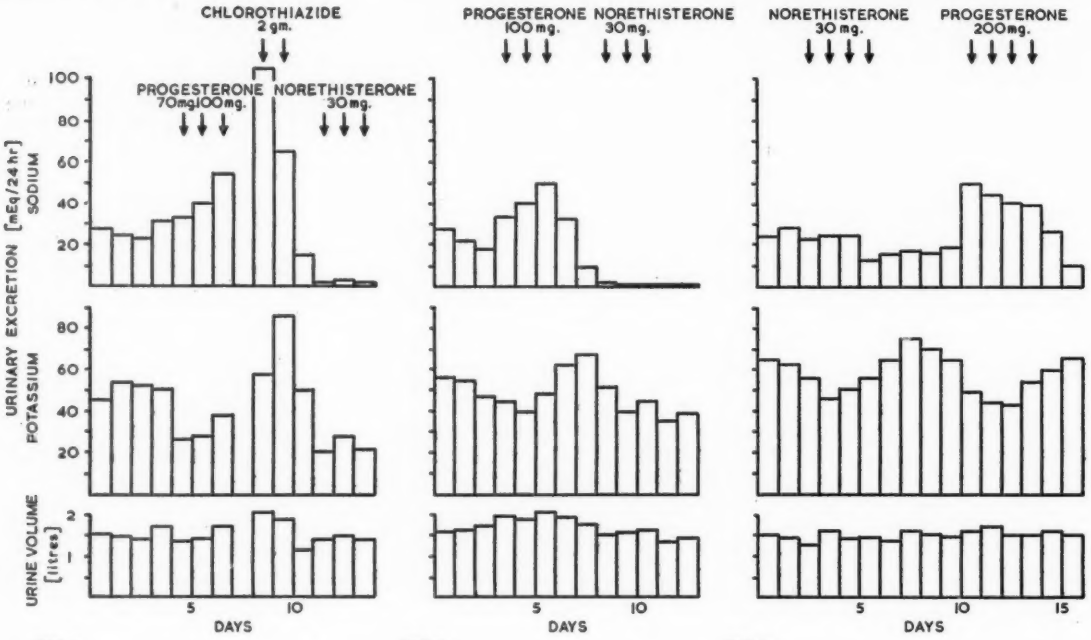

FIG. 1 FIG. 2 FIG. 3

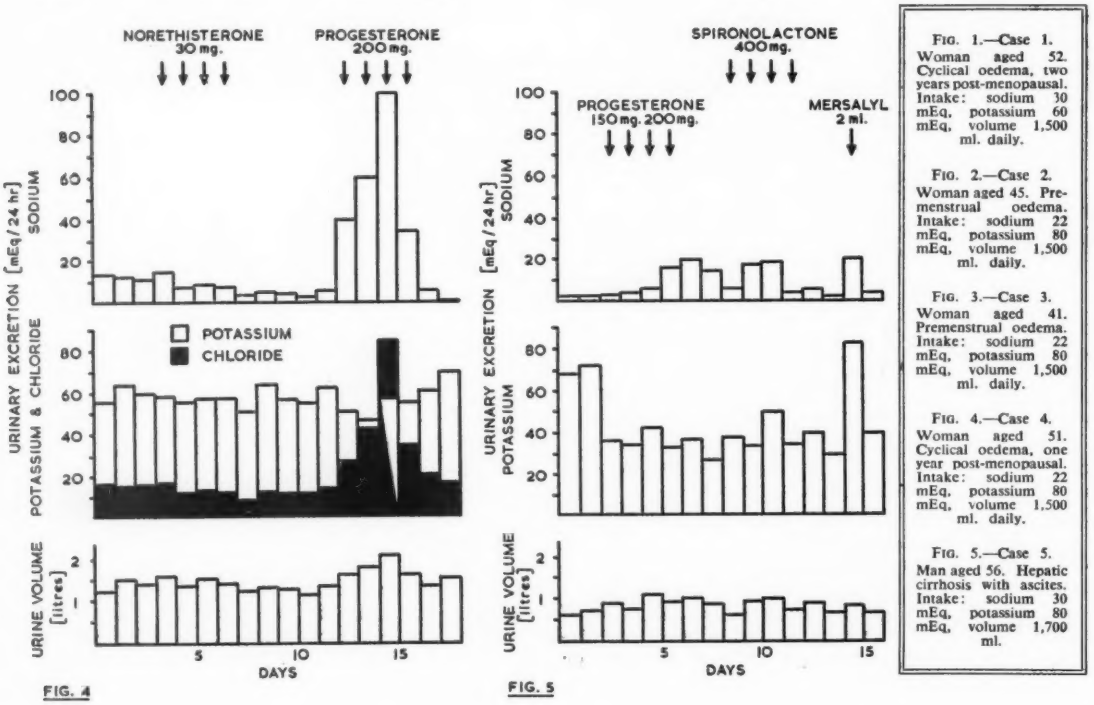

FIG. 4 FIG. 5

FIG. 1.—Case 1. Woman aged 52. Cyclical oedema, two years post-menopausal. Intake: sodium 30 mEq, potassium 60 mEq, volume 1,500 ml. daily.

FIG. 2.—Case 2. Woman aged 45. Premenstrual oedema. Intake: sodium 22 mEq, potassium 80 mEq, volume 1,500 ml. daily.

FIG. 3.—Case 3. Woman aged 41. Premenstrual oedema. Intake: sodium 22 mEq, potassium 80 mEq, volume 1,500 ml. daily.

FIG. 4.—Case 4. Woman aged 51. Cyclical oedema, one year post-menopausal. Intake: sodium 22 mEq, potassium 80 mEq, volume 1,500 ml. daily.

FIG. 5.—Case 5. Man aged 56. Hepatic cirrhosis with ascites. Intake: sodium 30 mEq, potassium 80 mEq, volume 1,700 ml.

a dosage as low as 15 mg. daily. Whatever the physiological implications may be, the practical management of cyclical oedema seems to be more effectively and conveniently carried out by the use of oral diuretics such as chlorothiazide. It should be remembered, however, that premenstrual tension is a syndrome of which oedema is the important objective sign, and relief of the various subjective symptoms may be obtained on occasions by a variety of agents.

Summary

The effect of progesterone and norethisterone on urinary electrolyte excretion has been studied in four cases of cyclical oedema. Progesterone caused an increase in urinary sodium excretion, whereas norethisterone produced a tendency to sodium retention.

The action of progesterone in a case of hepatic cirrhosis with ascites was similar to that of the aldosterone antagonist spironolactone.

The implications of these findings in the treatment of premenstrual tension are discussed.

I thank Mr. H. S. H. Sculthorpe, F.I.M.L.T., of the department of chemical pathology, for the estimation of urinary electrolytes; Miss M. E. Carey, chief dietitian; and Dr. J. R. Nassim and Professor A. C. Dornhorst for permission to study cases under their care.

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"In the Norwegian health service the general practitioner is the corner-stone of the system. It is a basic principle that the patient should be free to choose his doctor. The system works on the following lines. The patient first consults his private practitioner, who decides the course to be taken and what treatment or further examinations are necessary. If the practitioner feels that the case is beyond his scope, he refers the patient to a specialist or sends him to a hospital. The insurance plan favours this procedure, and it does not usually refund the specialist's fee to the patient unless he has been referred to the specialist by a general practitioner. Parents may, however, go direct to the paediatrician with their children if they are under 2 years old. There are no open out-patient departments in Norway on the British pattern except in association with some university departments, where they are needed to provide material for teaching purposes. Compulsory health insurance for everyone was introduced in 1956. The relationship between the doctor and the health insurance scheme is relatively free. With very few exceptions it works on the fee system. The doctor is paid according to the amount of work performed, on the basis of a tariff established by the Norwegian Medical Association after informal discussions with the health authorities. Health insurance pays part of the doctor's fee, the remainder being covered by the patient." (Dr. O. K. HARLEM (department of paediatrics, University of Bergen, Norway), "Paediatrics in Bergen," *Cerebral Palsy Bulletin*, Vol. 3, No. 2, 1961.)

HUMAN-AMNION-TISSUE CULTURE IN THE ROUTINE VIRUS LABORATORY

BY

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AND

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Although tissue cultures of fresh human amnion have been employed in virology since 1955 (Zitcer *et al.*, 1955), few reports on the use of this tissue have appeared in the British literature, and it is doubtful if amnion is used in this country as widely as it deserves. After trial of several tissue-culture systems in this laboratory (Grist *et al.*, 1960), monkey-kidney-tissue cultures were chosen exclusively for the isolation of viruses from stool specimens in 1958. However, early in 1959, when the future supply of monkeys appeared uncertain, it was decided to compare the practical usefulness of monkey kidney and human amnion by testing the susceptibility of the two tissue-culture systems to laboratory strains of a wide range of enteroviruses and by using both in parallel for virus isolation from stool specimens submitted over the period of a year. From this experience we believe that amnion is a tissue suitable for use both in the large specialized virus laboratory and in the smaller bacteriological laboratory where only a limited amount of diagnostic virology is done.

Preparation of Amnion Cultures

Immediately after delivery the entire placenta and membranes are placed in a 2-litre beaker containing 400 ml. of sterile Hanks's solution and covered with sterile aluminium foil. If the placenta is obtained at night the beaker may be stored at room temperature for up to nine hours. At the laboratory the placenta is suspended by the umbilical cord and the amnion dissected free. Blood clot and mucus are removed with forceps from the amnion, which is then cut into six pieces and washed successively in four beakers each containing 100 ml. of sterile Hanks's solution. The amnion receives a preliminary trypsinization for 30 minutes at 37°C. in a tightly stoppered conical flask containing 200 ml. of 0.25% trypsin (Difco 1:250) in Hanks's solution brought to *p*H 7.6 with additional sodium bicarbonate solution. This trypsin is discarded and 200 ml. of fresh trypsin added. The flask is kept at 37°C. for four to four and a half hours and the amnion gently swirled in the flask every 30 minutes. After four to four and a half hours, when the fluid should be turbid from the release of amnion cells, the flask is shaken thoroughly.

The fluid is filtered through two layers of sterile gauze, and, after the amnion tissue has been shaken a second time in 100 ml. of Hanks's solution, this fluid is also filtered through gauze and pooled with the first filtrate. The pooled fluid is centrifuged at 1,000 r.p.m. for 10 minutes to deposit the amnion cells, the supernatant is discarded, and the cells are resuspended in 20 ml. of propagating medium and counted in a haemocytometer after further dilution to 1 in 10. The 20-ml. suspension

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is finally added to sufficient propagating medium to give a final concentration of 3.5×10^5 cells per ml. and the medium dispensed in 0.8 – 0.9 ml. amounts into 4 by ½ in. (10 by 1.3 cm.) test-tubes. The tubes are stoppered and incubated in a sloped position in stationary racks at 37°C. After three to four days the propagating medium is changed and when a monolayer has formed —in about seven days—the medium is changed to maintenance medium and the tubes are incubated as before. The tissue cultures are now ready for use. Monolayers will remain healthy for two to three weeks if the maintenance medium is changed when the medium becomes acid. The propagating medium consists of Hanks's saline + 0.5% lactalbumin hydrolysate + 20% human serum ; maintenance medium consists of Earle's saline + 0.5% lactalbumin hydrolysate + 5% calf serum. Both media contain also 100 units of penicillin and 50 mg. of streptomycin per ml.

Amnion Culture Results

Although 108 amnions have been used in this laboratory to prepare tissue cultures, only the last 100 were included in the series for analysis of results. The first eight were unsuccessful because very few cells were released on trypsinization. The cause of this failure was traced to the method of preparing trypsin solution: this was made in bulk, and the enzyme was partly inactivated in the slow process of solution at room temperature. Now 0.5-g. amounts of trypsin are dissolved in 200-ml. volumes of Hanks's solution at 37°C. with continuous stirring to aid solution, which is complete in 30 minutes. The solution is immediately Seitz-filtered, and when filtration of the 200 ml. is complete—in 30 to 45 minutes—it is at once stored at –20°C. until used. Trypsin prepared in this way has given excellent yields of cells from the remaining 100 amnions.

The number of tubes of tissue culture obtained from one amnion varied greatly from none to as many as 1,200. The average number of tubes obtained after discarding those which did not grow and those which were contaminated was 460 for the whole series of 100 amnions. The cells from 13 amnions did not give usable cultures, either because the cells failed to stick to the tubes or because a complete monolayer did not form within a reasonable time. All the tubes from eight amnions were lost through bacterial or fungal contamination, and a proportion of the tubes—on average 10% of the total—from 10 others were contaminated and had to be discarded. For the whole series, 10.3% of otherwise successful tube cultures were lost by contamination. The time for a monolayer to form averaged 7 days and varied from 4 to 18 days. The cells from 10 amnions grew so well that monolayers formed without a change of propagating medium at three to four days.

An attempt was made to assess the effect on the final yield of several variable factors in the amnion itself and in the method of storage before trypsinization. Within the arbitrary limit of nine hours set at the beginning of the series there was little difference in yield between placentas stored for different times between delivery and trypsinization. Average yields from sample groups of placentas stored for 0–1 hour, 2–3 hours, and over 3 hours were 619, 534, and 707 respectively. Thirty-one placentas were delivered late in the working day and, for the convenience of the laboratory staff, were not trypsinized until the following day. The amnion in these cases was immediately separated from the placenta, washed, and stored overnight at room temperature in a tightly stoppered bottle containing 100 ml. of propagating medium. The average yield from these 31 amnions was 495 as compared with an average of 522 from the 69 amnions trypsinized on the day of delivery. No obvious differences in yield could be correlated with the presence or absence of much mucus on the amnion or the firmness of the attachment of the amnion to the placenta and chorion.

In general it seemed that the factor determining the success of the tissue cultures was the state of viability of the amnion cells at the time of delivery rather than the details of handling of the placenta and amnion afterwards. Moreover, most of the contamination encountered appeared to be caused by organisms already present on the tissue when it reached the laboratory.

In addition to these primary cultures, a number of secondary tube cultures were prepared by trypsinizing primary cultures grown in Roux bottles. As this method involved extra labour and as the yields of secondary cultures were no greater than those of the primary cultures from which they were obtained, the method was not pursued.

Enterovirus Susceptibility

The comparative susceptibilities of human amnion and rhesus-monkey-kidney-tissue cultures to infection by prototype enteroviruses were tested by titrating tenfold dilutions of the same seed of each virus in both tissues, using three tubes of each tissue per dilution. Each of the three types of poliovirus, the six types of Coxsackie B viruses, Coxsackie A9, and the first 27 types of E.C.H.O. viruses were tested. Details of virus strains and monkey-kidney cultures are noted elsewhere (Duncan, 1961). No cytopathic change was produced in amnion tissue by Coxsackie types B2 and B4 and E.C.H.O. types 4, 10 (now classified as a strain of reovirus: Sabin, 1959), 14, 16, and 27. The titres of the remaining viruses in the two tissues are given in Table I. In most cases similar titres were obtained in amnion and kidney. The titres of Coxsackie B1 and B6 and of E.C.H.O. types 19, 22, and 26 were much higher in kidney, and those of Coxsackie B3 and of E.C.H.O. types 20 and 21 were higher in amnion.

Virus Isolations From Faeces

During the year 1959, 670 specimens of faeces were received. Each was tested in monkey-kidney and human-thyroid-tissue cultures (Duncan, 1961) and a separate aliquot of any stool yielding virus in either of these was later tested in human-amnion cultures. It was not found possible to test every specimen in amnion-tissue culture, and the scheme of testing only those stools found to yield virus in other tissues was a workable compromise. While this method could not show if amnion was superior to kidney it was capable of showing if amnion at least equalled kidney for virus isolation. Details of isolations are given in Table II. Amnion gave results generally as good as those with kidney with all except Coxsackie type B viruses. Amnion greatly excelled kidney in the isolation of strains of "Frater" virus, an apparently new E.C.H.O. virus which caused many cases of aseptic meningitis in Scotland in 1959 (Duncan, 1960). Since only three isolations of poliovirus were made in 1959, 48 stool specimens, which were known from previous tests in monkey-kidney-tissue culture to contain poliovirus and which had been stored

at −20°C. for two years, were tested in amnion cultures. One contained type 2 and the others type 1 poliovirus. All yielded poliovirus in amnion-tissue cultures. Thirteen stool extracts, each containing one of a representative group of enteroviruses, were titrated in both human-amnion and monkey-kidney-tissue cultures to determine the relative sensitivities of the two tissue cultures in the detection of wild strains of viruses. The titres obtained are noted in Table III.

Herpes Simplex

The routine method for the isolation of herpes virus in this laboratory has been the inoculation of the chorio-allantoic membrane of the hen's egg. A small-scale comparison of amnion-tissue cultures with hen's eggs for the isolation of the virus was made by inoculating both culture systems with 19 specimens from possible clinical cases of herpes. Herpes virus was isolated in amnion from 13 specimens and in eggs from 10. The cytopathic effects in amnion were similar to those described in HeLa cells by Gray *et al.* (1958). It appears that amnion is no less sensitive than the hen's egg for the isolation of herpes virus. Moreover, amnion cultures have the great advantage over eggs of being much less laborious to inoculate and to examine for evidence of viral growth.

Discussion

We have not found amnion a difficult tissue to grow. Indeed, over a period of 18 months in this laboratory we have prepared and used 46,000 tubes of amnion-tissue cultures. A certain proportion of failures due to non-viable cells and to contamination is inescapable in culturing a tissue so liable to trauma and infection before it reaches the laboratory. This loss has not been unduly great and is a small price to pay for such an economical and readily accessible source of tissue cultures. In our series, 13% of the amnions failed to grow and 18% were contaminated. A similar series of amnion cultures in this country was described by Ferguson and Tobin (1958) in which 19% were contaminated and another 19% failed to grow.

Human serum was used in the propagating medium in preference to "commercially available" calf serum as the latter gave variable results depending on the batch used. Ferguson and Tobin (1958) also found that calf serum never produced such good cultures when tested in parallel with human serum. The use of human serum necessitates washing the cells in maintenance medium at least twice to remove antibody if human viruses are to be studied.

The titres listed in Table III suggest that amnion cultures are less sensitive than monkey kidney in detecting "wild" strains of poliovirus. However, in all of the 51 stool extracts containing poliovirus which were tested sufficient virus was present to be detected by amnion cultures. Amnion in general was as good as monkey kidney for the isolation of E.C.H.O. viruses. Only for the detection of Coxsackie viruses was amnion much less satisfactory. Amnion was also found to be most useful for isolating herpes virus.

These findings support our belief that, for the laboratory without access to monkeys, human-amnion cultures offer a very satisfactory and readily available alternative to monkey kidney for the investigation of cases of poliomyelitis and aseptic meningitis. Admittedly, human-amnion cultures, used alone, would fail to isolate many Coxsackie B viruses. This omission might be remedied by the use of suckling mice in appropriate cases, since many laboratories which do not keep monkeys do maintain a stock of mice. In the specialist virus laboratory, on the other hand, where monkey-kidney-tissue cultures are routinely employed, the additional use of amnion cultures would greatly improve the chances of isolating such viruses as "Frater," which are detected much less efficiently by monkey-kidney than by human-amnion cultures.

TABLE I.—*Comparative Titres of Prototype Strains of Enteroviruses in Human-amnion and Monkey-kidney Cultures (Expressed as Log_{10} of 50% Infecting Dose Per 0.1 ml.)*

Virus:	Poliomyelitis			Coxsackie					E.C.H.O.						
Type:	1	2	3	A9	B1	B3	B5	B6	1	2	3	5	6	7	8
Amnion	6·2	3·5	5·5	6·2	0·8	6·5	1·5	2·5	6·8	6·8	6·5	6·8	7·2	6·5	6·5
Kidney	6·8	4·8	5·2	6·8	3·5	3·8	1·8	5·2	7·2	7·2	6·5	6·2	6·5	6·8	6·5

Virus:	E.C.H.O. (*continued*)														
Type:	9	11	12	13	15	17	18	19	20	21	22	23	24	25	26
Amnion	6·5	5·8	6·2	6·5	4·8	8·2	7·2	6·2	6·5	5·8	2·5	>7·5	5·8	5·5	4·5
Kidney	5·8	6·2	6·2	6·5	4·8	7·5	7·5	8·2	3·5	2·2	4·2	6·5	4·8	5·8	6·2

TABLE II.—*Viruses Isolated in Human-amnion and Monkey-kidney from Specimens of Faeces Examined during* 1959

Virus:	Poliomyelitis		Coxsackie			E.C.H.O.						Adenovirus					"Frater"	Not Yet Typed
Type:	1	3	A9	B2	B5	5	6	7	11	14	15	1	2	3	7	15		
No. in amnion	1	2	1	0	2	0	2	1	5	0	1	2	2	0	2	1	58	8
No. in kidney	1	2	1	5	10	2	2	1	6	3	1	1	2	1	1	0	26	3

TABLE III.—*Comparative Titres in Human-amnion and Monkey-kidney Cultures of "Wild" Strains of Enterovirus Present in Specimens of Faeces (Titres Expressed as in Table I)*

Virus:	Poliomyelitis					E.C.H.O.			Coxsackie	"Frater"			
Type:	1	1	1	2	3	6	11	11	A9				
Amnion	1·5	0·5	2·5	0·5	<0·5	4·5	3·5	>5·0	2·0	>5·0	4·5	1·7	1·5
Kidney	3·0	1·5	3·5	2·5	3·5	2·2	1·7	2·7	2·0	3·5	4·2	1·7	0·2

Summary

Tissue cultures were prepared from 100 amnions by a method which was found to be reasonably easy and which gave satisfactory results. Human-amnion cultures were shown to be capable of detecting the great majority of prototype strains of enteroviruses, and were as successful as monkey-kidney cultures in isolating enteroviruses, with the exception of Coxsackie B strains, from clinical specimens.

We are grateful to Miss M. Buchanan and to Mr. E. J. Stott for their assistance in preparing amnion cultures; to the labour ward sisters, Robroyston Hospital, Glasgow, for their unfailing co-operation in obtaining placentas for this work; to Dr. A. D. Macrae, Virus Reference Laboratory, Colindale, for prototype strains of virus; to Dr. N. R. Grist and Dr. C. A. C. Ross, of this laboratory, for the results of those of the chorio-allantoic membrane inoculations carried out by them; and to our clinical colleagues who submitted specimens from their patients.

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CONGENITAL LEUKAEMIA WITH PARENTAL CONSANGUINITY

CASE REPORT WITH CHROMOSOME STUDIES

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Congenital leukaemia with evidence of the disease present at birth is a rare occurrence. It presents problems of diagnosis and management to the clinician and pathologist, and is of particular interest to the cytogeneticist from the standpoint of aetiology.

We have recently had under our care an infant with congenital leukaemia whose parents were first cousins. The opportunity was taken to study the chromosomes of the infant and both parents, and it was possible to observe for a short time the effect of treatment with prednisolone.

Case Report

The infant, a male, was born on January 22, 1961, at Mill Road Maternity Hospital, Liverpool. He was the first child of healthy parents (the mother aged 19, the father aged 20), who were first cousins (Fig. 1). The mother's health was good throughout the pregnancy, which was uneventful. The only radiograph taken was a chest film at 32 weeks' gestation, which was reported normal. There was no history of blood disease or any other serious illness in the family.

The infant was born normally at full term, weighed 6 lb. 14 oz. (3,120 g.), and appeared quite healthy. On the following day skin purpura and slight jaundice were noted, and examination revealed gross enlargement of the liver and spleen. Examination of blood showed haemoglobin 100%

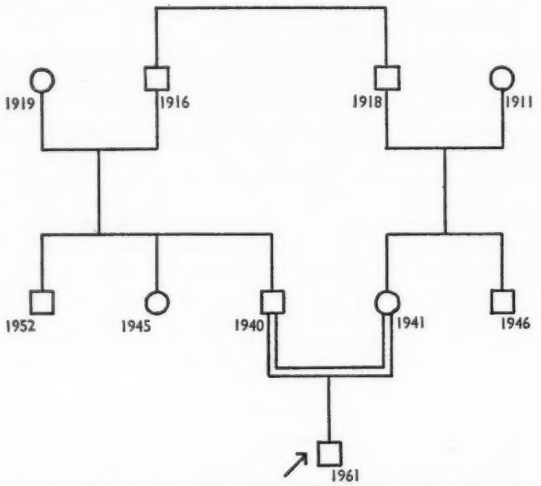

FIG. 1.—Family tree: the arrow indicates the propositus. All the individuals represented above are alive and well.

(14.8 g./100 ml); leucocytes 24,000/c.mm, with a normal differential count; platelets 165,000/c.mm. The child was transferred to Alder Hey Children's Hospital on the third day of life for investigation.

On admission there were petechiae and ecchymoses on the face and scattered petechiae on the trunk. No nodules were present in the skin, which was moderately icteric. No haemorrhages were seen in the mucous membranes. The liver was enlarged to 3 in. (7.5 cm.) and the spleen to 3½ in. (9 cm.) below the costal margins. No other abnormality was found and there were no signs of mongolism. The stools were of normal colour.

Investigations.—Haemoglobin 100% (14.8 g./100 ml.); reticulocytes 2%; the red cells showed anisocytosis and polychromasia; leucocytes 21,000/c.mm. (lymphocytes 53%, neutrophils 31%, eosinophils 8%, monocytes 8%); platelets fewer than 10,000/c.mm. Serum bilirubin 15 mg./100 ml. (conjugated 7 mg., unconjugated 8 mg.). Other liver-function tests were normal. Blood group B, Rh positive (mother O Rh negative without antibodies); direct Coombs test negative. Serological tests for syphilis and toxoplasmosis were negative in mother and child. No evidence of cytomegalic inclusion disease was found.

The infant's general condition remained about the same. No fresh petechiae appeared in the skin, but stools were occasionally blood-streaked. On the fifth day of life the haemoglobin was 86% (12.7 g./100 ml.) and the total leucocyte count was within normal limits, but blast cells (6%) were present. The white-cell count increased to 45,000/c.mm. on the eighth day, with 29% blast cells.

Marrow puncture was performed and, although no fragments were obtained, free cells were abundant. They were almost entirely of the lymphocytic series and over 75% had a primitive type of nucleus with an open chromatin network. Many contained one or two distinct nucleoli. The cytoplasm was scanty and limited to a very thin rim round the nucleus, and stained a pale blue. No megakaryocytes were present. The appearances were those of a blastic leukaemia, probably lymphogenous in type.

On the ninth day the leucocytes had increased to 140,000/c.mm. (blast cells 71%) and, after blood had been taken for chromosome studies, treatment was started with prednisolone, 50 mg. daily in divided doses. This was followed by a dramatic fall in the white-cell count to 26,000/c.mm. (blasts 51%) within 24 hours and to 2,500/c.mm. within 48 hours, with no blast cells present (see Fig. 2). The liver and spleen became reduced in size to 2 in. (5 cm.) below the costal margins. Fresh petechiae and ecchymoses appeared on the trunk and there was further gastro-intestinal bleeding. On the 12th day the haemoglobin was 25% (3.7 g./100 ml.) and a blood transfusion was given. The child's condition deteriorated and he died the following day.

Necropsy

The body was that of a small, wasted infant weighing 6 lb. 9¼ oz. (2,990 g.). The skin was jaundiced, and numerous petechiae were present, especially over the lower abdomen. Stomach contents were present in the larynx, trachea, and main bronchi, but the lungs were fairly well aerated. The pleural cavities were dry. There was no abnormality of the heart or pericardium. Blood-stained fluid was present in the peritoneal cavity. Considerable haemorrhage had occurred into the lumen of the bowel and a large quantity of fresh clotted blood was present in the stomach and small intestines. There had also been bleeding into the walls of the stomach, pylorus, and ileum.

Apart from enlargement there was no obvious macroscopic abnormality of the liver and spleen, which weighed 235 g. and 45.5 g. respectively. There was no anatomical abnormality of the bile ducts, but the bile passages were filled with thick inspissated dark-green bile. The abdominal lymph nodes were enlarged, dark, and haemorrhagic. Death was attributed to haemorrhage into the gastro-intestinal tract.

The significant histological findings were confined to the abdominal viscera and bone-marrow. The pancreas was diffusely infiltrated by masses of mononuclear cells morphologically indistinguishable from blast cells. They mainly followed the line of the fibrous tissue septa, but had also invaded and destroyed the parenchyma in several places. They were uniform, and had a round or slightly reniform darkly staining nucleus and almost no cytoplasm. Occasional mitoses were present. Some of the pancreatic ducts were dilated.

The liver showed several features of an obstructive biliary cirrhosis. The parenchyma was divided into irregular lobules by bands of fibrous tissue spreading from the periportal areas. There had also been marked proliferation of bile-ducts, which were dilated and contained inspissated bile plugs. No bile retention had occurred in the bile canaliculi or in the liver cells. There was no inflammatory cell infiltration. A few foci of erythropoiesis were scattered throughout the sinuses.

In the spleen the architecture was normal, but there was much shrinking of the Malpighian bodies, which had lost a substantial proportion of their cell population. A few foci of erythropoiesis were present. Some focal haemorrhages had occurred in the sinuses. The marrow also showed depopulation of cells and focal haemorrhages. As in the spleen, there was no convincing evidence of active leukaemic infiltration.

In the kidneys there were, in addition to areas of erythropoiesis, small foci of large mononuclear cells similar to those in the pancreas, and they were usually associated with focal haemorrhages.

Chromosome Studies

Chromosome analysis was carried out from a sample of peripheral blood taken on January 31, 1961, and cultured, using a modified version of the technique of Moorhead *et al.* (1960). After differential centrifugation the concentration of leucocytes was 87,000/c.mm. and, as the time taken for cells to reach optimum rate of division is variable in different leukaemic blood samples, cultures were set up as follows: (*a*) Diluted to 3,000 white blood cells per c.mm. with AB serum (70%) and T.C. 199 (30%) and incubated for a total period of seven hours, as for bone-marrow culture. (*b*) Diluted to 1,500 white blood cells per c.mm. with T.C. 199; one culture was incubated for two days and another for three days.

Very few dividing cells, none of which were countable, were found after the short-term culture, although this method has proved successful in other cases. More cells were seen in division in the two-day and three-day cultures,

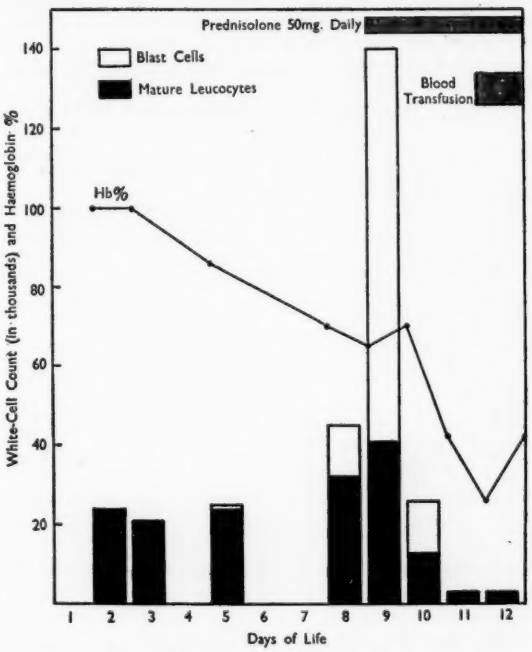

FIG. 2.—Serial blood counts in relation to treatment.

but only 17 were countable; 15 of these were found in preparations made from the two-day culture. Seven cells were fully analysable and no evidence of any chromosomal abnormality could be found.

Samples of blood were also taken from both parents of the baby. These were cultured for the three-day period and gave good-quality preparations. From these only enough cells were counted and analysed to confirm a normal chromosome complement with the absence of any aberrations. Table I gives the actual chromosome counts made.

TABLE I.—*Distribution of Chromosome Counts*

	<45	45	46	47	Polyploid	Total	Analysed
Baby ..	2	1	12	1	1	17	7
Mother	1	1	30	2	0	34	5
Father	2	1	25	1	1	30	5

Discussion

Diagnosis of Congenital Leukaemia

The syndrome of jaundice, skin haemorrhages, and enlargement of the liver and/or spleen in the newborn is by no means uncommon and may present diagnostic difficulties. The initial clinical diagnosis in this case was cytomegalic inclusion disease. Some of the principal conditions which may present with this clinical picture are listed in Table II with some points of differential diagnosis. It will be seen that there are two

main groups—namely, infective conditions (viraemia, septicaemia, toxoplasmosis, syphilis, cytomegalic inclusion disease) and blood disorders (haemolytic disease, thrombocytopenic purpura, leukaemia).

In the present case the combination of anaemia, thrombocytopenia, and large numbers of immature white cells in the peripheral circulation, in conjunction with an active marrow, almost completely replaced by blasts, makes a diagnosis of leukaemia inescapable. It is, however, often demanded that there should be evidence of infiltration. In the present case the pancreas was extensively infiltrated—indeed, to such an extent that there must have been obstruction to a major bile-duct for long enough to cause biliary cirrhosis. It is

TABLE II.—*Differential Diagnosis of Congenital Leukaemia*

	Splenomegaly	Hepatomegaly	Purpura	Icterus	Leucocytosis	Anaemia	Thrombocytopenia	Other Diagnostic Features
Viraemia	+	+	+	+	+	+	+	Herpes — characteristic rash. Coxsackie—myocarditis. Virus studies
Septicaemia	+	+	+	+	+	+	+	Blood culture
Toxoplasmosis	+	+	+	+	±	±	+	Dye test and C.F.T. on mother and infant
Cytomegalic inclusion disease	+	+	+	+	+	+	+	Inclusion bodies in cells of urinary sediment. ? C.F.T.
Syphilis ..	+	+	−	+	+	+	−	Rash, snuffles, osteochondritis. Serology of mother and child. Bone *x*-ray film
Haemolytic disease	+	+	±	+	+	+	±	Rh incompatibility; Coombs test positive
Primary thrombocytopenia	±	−	+	−	−	±	+	Family history. Prolonged bleeding-time, capillary fragility, poor clot retraction, ? platelet agglutinins
Leukaemia	+	+	+	±	+	+	+	Skin lesions. Blast cells in blood and marrow

interesting to note that the spleen and marrow not only failed to show infiltration but even showed noticeable depopulation of cells. This was consistent with the remarkable fall in the peripheral white-cell count after steroid therapy.

Treatment of Congenital Leukaemia

Congenital leukaemia runs a very short course and there are few reports of attempts to treat it. Urethane (Taylor and Geppert, 1950) and A.C.T.H. (Lee and Ciner, 1957) have been tried without effect. In the present case high doses of prednisolone were followed immediately by a profound fall in the peripheral white-cell count, diminution in size of the liver and spleen, and disappearance of blast cells from the marrow. Death was attributable to gastro-intestinal haemorrhage, and post-mortem evidence of leukaemia was found only after careful search.

Aetiology of Congenital Leukaemia

Genetic and environmental factors have both been implicated in the genesis of leukaemia. The genetic element is seen in its purest form when there is a high familial incidence of leukaemia, as in the family described by Anderson (1951) in which five out of eight children were affected. In those less striking but more numerous sibships containing two or three affected individuals, the genetic factor is presumably strong. At the other extreme, leukaemia after high doses of ionizing radiation may be presumed to be of almost purely environmental origin.

In most instances, however, a combination of genetic predisposition and environmental trigger precipitates the clinical disease. In some individuals, notably mongols, the trigger fires at a light touch, their abnormal chromosomal constitution giving them a strong predisposition. Stewart (1961) has suggested the name *prezygotic* for those leukaemias which are predominantly of genetic causation, and *post-zygotic* for those attributable largely to prenatal or post-natal environment. By and large, prezygotic leukaemias are of lymphatic or stem-cell type and arise early in life, while post-zygotic cases are often myeloid and are seen principally in older children and adults. The discovery of the Philadelphia chromosome (Nowell and Hungerford, 1960; Baikie *et al.*, 1960) in chronic myeloid leukaemia is not inconsistent with this theory, since it is only the abnormal leucocytes and their precursors that contain the abnormal chromosome.

Because of its prenatal onset, congenital leukaemia might at first be thought likely to have a predominantly genetic basis, an idea strengthened in the present instance by the consanguinity of the parents. Although some cases of acute leukaemia have been reported with a variety of chromosomal aberrations in bone-marrow samples, others have shown no abnormalities (Ford *et al.*, 1958; Baikie *et al.*, 1959, 1961; Ford, 1960; Sandberg *et al.*, 1960). Unfortunately, marrow was not available for culture in the present case and it is not known whether the cytological condition of the marrow was truly reflected in the peripheral blood. From experience with both marrow and peripheral blood samples in other cases of acute leukaemia and from investigations already reported (Baikie *et al.*, 1961) it is evident that the findings in these two tissues may not correspond with one another.

Against a genetic basis for congenital leukaemia, parental consanguinity has not previously been reported, the disease has not been reported in an infant born to a leukaemic mother, nor has more than one case been reported in a sibship. Furthermore, a high proportion of authors have felt that their cases of congenital leukaemia were of myeloid type.

The causative factor or factors would therefore appear to operate between conception and birth. The most obvious possiblity—ionizing radiation—has been excluded in this case, nor do bacterial or chemical toxins appear to have played any part.

It is of interest that leukaemia has only twice been described in stillborn babies (Koch, 1922; Bungeler, 1931). This observation, together with the fact that in this case the peripheral blood at birth was normal, suggests that there may be some restraining mechanism *in utero* which breaks down at birth. The remarkable effect of prednisolone on both peripheral blood and bone-marrow raises the possibility that maternal adrenal cortical hormones may play a part in this mechanism.

Summary

A case of congenital leukaemia is described in an infant whose parents were first cousins. Chromosome studies on peripheral blood revealed no abnormality in the child or either parent. The disease responded briefly but dramatically to treatment with prednisolone. The diagnosis, treatment, and aetiology of congenital leukaemia are discussed.

We thank Dr. F. Berry and Dr. S. E. Keidan for their help with this child.

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Medical Memoranda

Fatal Case of Stevens–Johnson Syndrome after Sulphamethoxypyridazine Treatment

Sulphamethoxypyridazine, a long-acting sulphonamide, has been widely used since its introduction a few years ago. Increasingly frequent reports of reactions indicate that its use is not without risk, although few fatal reactions have been recorded. In the following case its administration was followed by an extensive bullous erythema multiforme (Stevens–Johnson syndrome) which ended fatally.

CASE REPORT

The patient, a 69-year-old woman, was admitted to hospital in August, 1959. Four weeks previously she had developed an influenza-like illness with pharyngitis and productive cough, for which she received oral penicillin V, 1 g. daily for three days, followed by sulphamethoxypyridazine, 0.5 g. daily for 19 days—that is, until the time of admission.

Three days before admission she awoke with an intensely irritating bilateral conjunctivitis, which was later associated with a purulent exudate and mild photophobia. An erythematous skin eruption developed, involving most of the body. This progressed, and in places the epidermis stripped off, exposing raw bleeding areas. The buccal mucosa was extensively ulcerated. The urethra was also involved, causing severe dysuria, and eventually urinary retention with overflow.

There was no personal or family history of allergy or previous drug sensitivity. Over the previous five years the patient had received four short courses of treatment with "sulphatriad" and sulphathiazole for throat and gastro-intestinal infections.

In 1945 a hysterectomy had been performed for carcinoma of the body of the uterus, which was followed by a course of deep *x*-ray therapy.

On examination the patient, a moderately obese elderly woman, had a temperature of 101° F. (38.3° C.). There was a widespread bullous skin eruption involving most of the body, with excoriation around the mouth and eyelids. Stripping of the epidermis occurred wherever sliding pressure was applied to affected areas of skin (Nikolsky's sign). The conjunctivae were injected, with purulent exudate, and there was extensive corneal ulceration. The tongue and buccal mucosa were grossly ulcerated, and swallowing and speech soon became very difficult. The vulva was intensely inflamed and ulcerated. There were no other significant findings apart from a midline lower abdominal surgical scar with some surrounding atrophy and fibrosis from previous deep *x*-ray therapy.

Investigations.—In the Stevens–Johnson syndrome the laboratory findings do not reflect the severity of the constitutional disturbance. In this case investigations for the most part gave normal results: haemoglobin, 14.9 g./100 ml.; leucocyte count, 5,200/c.mm. (band neutrophils 30%, segmented neutrophils 44%, lymphocytes 22%, monocytes 4%); E.S.R. 11 mm. in 1 hour (Westergren); total serum proteins, 6.4 g./100 ml. (albumin 3 g., globulin 3.4 g.). Blood urea initially was 63 mg./100 ml. The serum electrolytes were normal. The urine contained a trace of protein and showed red cells in the deposit. No pathogens were isolated on bacteriological culture of swabs taken from throat, conjunctivae, skin vesicles, and vulva. A chest *x*-ray film showed a rounded opacity 2 cm. in diameter in the left upper zone, but was otherwise clear.

Treatment was started with erythromycin 2 g. daily and prednisone 40 mg. daily, which was later increased to 80 mg. daily. On the higher dose of prednisone the temperature returned to normal. As the patient could take only small amounts of fluid by mouth, fluids were given intravenously to maintain an adequate fluid balance. In spite of treatment her condition steadily deteriorated. A toxic auricular fibrillation developed which was controlled with digoxin. She died 12 days after admission.

Necropsy Findings.—The skin ulceration involved 40% of the body surface. There were also ulcerated areas in the mouth, conjunctiva, cornea, vulva, vagina, and urethra. Histologically the picture was that of an acute polymorphonuclear inflammatory response with ulceration. The rounded opacity present on the chest *x*-ray film was found to be due to a tumour deposit, histologically consistent with metastasis from endometrial adenocarcinoma. A similar tumour deposit was found in the vault of the vagina. The uterus and cervix were absent. The heart was normal, the trachea and bronchi were normal, and there was no evidence of pneumonia, although the lungs showed some congestion. There was a small acute erosion in the stomach just above the pylorus.

COMMENT

The association of bullous erythema multiforme with extensive ulceration of mucous membranes constitutes the Stevens–Johnson syndrome. The classification and terminology of this condition is rather confused. The Stevens–Johnson syndrome, ectodermosis pluriorificialis, Behcet's syndrome, and possibly Reiter's disease may all be variants of erythema multiforme, and it has been suggested that the term "muco-cutaneous ocular syndrome" could be used to include all these disorders (Robinson and McCrumb, 1950).

The aetiology of the Stevens–Johnson syndrome is still obscure, but often it seems to occur as a hypersensitivity reaction to drugs, particularly sulphonamides and phenobarbitone (Mauriello, 1954). It is hard to escape the conclusion that sulphamethoxypyridazine was responsible for the skin eruption in this patient. Nine previous cases of severe bullous erythema have been reported in association with this drug (Lindsay *et al.*, 1958; Salvaggio and Gonzalez, 1959; Garner, 1959; Yaffee, 1959; Maher-Loughnan and Tullis, 1960). One of these proved fatal, this case being complicated by a septicaemia.

It is becoming increasingly evident that sulphamethoxypyridazine may cause untoward effects, in general similar to those caused by earlier sulphonamides. Minor effects that have been reported are headache, nausea, anorexia, fever, giddiness, joint pains, and mild skin eruptions. Their incidence is difficult to assess: estimates vary from 3.6% (Stewart *et al.*, 1960) to 15%

(Lindsay *et al.*, 1958). In most cases the reactions consist of minor skin eruptions which subside when treatment is stopped.

More severe reactions do occur and are unrelated to the dose of the drug or to the duration of treatment. Major reactions include severe skin eruptions, blood dyscrasias (aplastic anaemia, leucopenia, and thrombocytopenia) (Schwartz and Norton, 1958), interstitial myocarditis, and hepatitis (Tisdale, 1958; Hershfield and Stern, 1958). Reactions to sulphamethoxypyridazine have caused five deaths, two from myocarditis (Blanchard and Mertens, 1958), one from aplastic anaemia (Holsinger *et al.*, 1958), one from thrombocytopenic purpura (Janovsky, 1960), and one from septicaemia with severe bullous erythema multiforme (Salvaggio and Gonzalez, 1959). The prolonged action and slow excretion of sulphamethoxypyridazine may make this drug more likely to cause severe reactions than the shorter-acting sulphonamides, but there is no reliable information on this point.

The value of steroids in the treatment of bullous erythema multiforme remains in doubt, as the condition is usually self-limiting. In the present case a high dose of prednisone, although suppressing the fever, did not alter the patient's general condition or influence the skin lesions.

Mauriello (1954) reported no benefit from corticotrophin in six cases of Stevens–Johnson syndrome, and in two of these cases fresh skin lesions developed during treatment. Other workers have reported good and occasionally dramatic responses to corticotrophin or steroids (VanderMeer *et al.*, 1953; Librach, 1955), and their use would appear to be justified in a desperately ill patient.

ADDENDUM.—Since reporting this case we have seen a further case of Stevens–Johnson syndrome following administration of sulphamethoxypyridazine, which responded dramatically to corticotrophin 40 units b.d., and prednisone 60 mg. daily.

For permission to record this case we thank Dr. J. D. K. North, physician in charge of the Medical Unit, Auckland Hospital, under whose care the patient was admitted. We are indebted also to Dr. J. Gwynne, pathologist, Auckland Hospital, for the necropsy report.

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Myocarditis due to Coxsackie Virus Infection in an Adult

During a recent outbreak of Coxsackie virus infection in Johannesburg several cases of pleurodynia with pericarditis in adults were seen. One case of myocarditis in a young woman is worth recording.

The varied clinical picture has been well documented. Recently these viruses have been implicated as a cause of myocarditis in the newborn and in infants (Montgomery *et al.*, 1955; Javett *et al.*, 1956; Kibrick and Benirschke, 1956; DeLaney and Fukunaga, 1958; Hosier and Newton, 1958; *Lancet*, 1958). Connolly (1961) describes a case of myocarditis in a boy aged 12. Woodward *et al.* (1960) summarize the present position of Coxsackie myocarditis in adults, adding to the earlier case reports of Null and Castle (1959).

CASE REPORT

A 24-year-old nursing sister presented on November 20, 1960, with malaise and a sore throat, five days after returning from leave to nurse several children with Coxsackie virus infection. She developed a severe band-like pain in the chest, with rigors, fever, nausea, vomiting, and pain in the head and neck. She had paraesthesiae of the extremities, but no weakness.

When first seen she was very ill indeed: cyanosed, temperature 103° F. (39.4° C.), pulse 100, blood-pressure 94/60. There was tenderness over the lower anterior chest. The heart sounds were faint. There was no gallop or pericardial rub. The breath sounds were faint. The abdomen was very tender. The liver was two fingerbreadths enlarged and tender. Slight neck stiffness, positive Kernig's sign, and slight weakness of the grip with increased tendon jerks of the right upper limb were present.

She felt better the next day, although the chest pain had spread to the neck and left shoulder. Extensive pleural rubs developed over both lower lobes. The neurological signs cleared. The blood-pressure rose to 120/80 and was maintained. The improvement continued until the characteristic deterioration at the end of the second week. She again improved, but the pleural rub persisted for six weeks.

Further flare-ups occurred on the administration of methylprednisolone, 12 mg. daily for three days, beginning on December 27, and later with prednisone 20 mg. daily for nine days, beginning on January 11, 1961. The pleural pain, lower abdominal pain, and tenderness of the cervical glands recurred. A macular rash appeared on the trunk and arms, and a few itchy papules on the face. She improved when the steroids were discontinued.

In the first week of the illness she had a painful menstrual period. Scanty bleeding occurred at intervals of five to six weeks thereafter. Four months later the periods were still not normal.

Investigations. — The cerebrospinal fluid showed 24 lymphocytes and 5 polymorphs per c.mm., and was normal in other respects. The blood count, E.S.R., transaminases, mucoproteins, and urine were normal. C-reactive proteins and L.E. cells were absent. Chest radiography showed a small area of pneumonitis in the left lower lobe initially. The heart was normal.

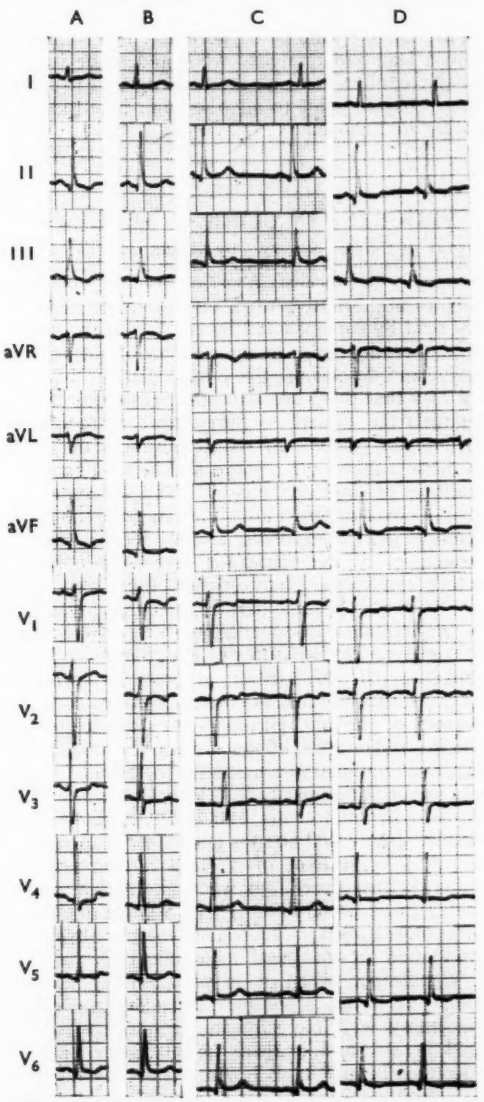
Electrocardiograms.—The tracings are grouped to demonstrate the serial changes (see Fig.) S–T depression with T-wave inversion was shown in II, III, aVF, V_3–V_6 initially. These leads were normal next day, but V_1 and V_2 showed similar changes which did not vary with position. These persisted for the four-months period of follow-up. After the administration of corticosteroids there were S–T depression and T-wave inversion in III, aVF, V_5, and V_6 resembling the initial tracings.

Virus Studies.—Coxsackie virus group B type 1 was isolated from the cerebrospinal fluid and the stool in tissue culture only. The serum initially showed no antibodies but a high titre six weeks later in a neutralizing test in baby mice. Complement-fixation tests for the rickettsiae and the viruses of mumps, herpes, and lymphocytic choriomeningitis were negative at the onset and also six weeks later.

COMMENT

Coxsackie virus group B type 1 infection was confirmed. Myocarditis was diagnosed clinically and electrocardiographically.

There was marked deterioration in all clinical aspects and electrocardiographically, with the production of the rash as a new sign after the use of small doses of corticosteroids. The electrocardiograms suggest that the initial subendocardial lesions were still present, only to be reactivated almost two months later, in spite of the presence of high-titre antibodies. Kilbourne *et al.* (1956) established that gross myocardial necrosis may result from administration of cortisone to adult mice infected with group B type 3 Coxsackie virus. Its use therefore seems to be fraught with the danger of inducing or aggravating myocarditis, pleurodynia, and rashes. Null and Castle (1959) emphasize the uncertain outcome of Coxsackie virus infection, and raise the possibility of chronic cardiac change. Hosier and Newton (1958) describe the case of a boy of 5 with cardiac enlargement and an abnormal electrocardiogram lasting for 10 months. They also refer to Van Creveld's viewpoint that the scarring seen in the myocardium of children and young adults dying from cardiac failure may be the residual effects of Coxsackie myocarditis. The present case and those of neonatal infection should therefore be followed up.



Electrocardiograms. A, Initial tracing, November 25, 1960. B, Following day. C, Stabilized pattern persisting for four months. D, At end of nine days' therapy with prednisone.

Of further interest was the extent of the infection. A pneumonic lesion was seen on the radiograph. The liver and lymph nodes were enlarged and tender.

The possibility of oophoritis was considered in the light of the report by Morrison and Baird (1952) of orchitis in adults. Only a single vaginal smear was done, however, which showed moderate oestrogenic effect.

I am indebted to Dr. J. Schwartz for referring this case to me and so making this study possible.

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Null, F. C., and Castle, C. H. (1959). *New Engl. J. Med.*, **261**, 937.
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In the course of his Presidential Address to the British Association's Section of Physiology and Biochemistry on September 1, Professor Sir BRYAN H. C. MATTHEWS, F.R.S., said that there was great danger in the presentation of scientific material without due regard to its place in our systems of knowledge. This danger arose all too easily in elementary scientific teaching or in the popularization of science. "The beautiful models made to summarize data relating to the theory of molecular structure are often presented, especially since the advent of television, as though they were drawn as one can draw the railings outside the window to represent the shape of tangible objects." Scientists themselves could understand that these were merely coded diagrams, that the entities they were dealing with were dynamic, with moving changes and vibrating particles. To the untutored mind they had "an air of finality that is the negation of the spirit of science. . . . We can see around us the spread of a popular pseudo-science that is regarded as a body of final dogma accepted almost as a religion, and perhaps welcomed in some quarters as providing a stronger popular opiate."

Reviews

UNEQUALLED RICHNESS

The British Medical Dictionary. Edited by Sir Arthur Salusbury MacNalty, K.C.B., M.A., M.D.(Oxon.), F.R.C.P., F.R.C.S. In collaboration with over one hundred specialist contributors. (Pp. 1,680+xix. £10 10s.) London, Toronto, Melbourne, New York, and Wellington: The Caxton Publishing Company Limited. 1961.

Those who have much medical writing or editing to do have long been conscious of the need for a fully comprehensive English medical dictionary. There are one or two excellent American ones, but the two languages have diverged too far for American books to be satisfactory guides to the writing of English, and it is tedious to have to explain to a secretary that "erythema" is correct English and "erythremia" is not. Difficulties are also experienced by the many foreigners who write scientific books, papers, and summaries of articles in English, and who often prefer to use English rather than American ways of spelling. English is already the common tongue of European scientists, and it is likely to be even more widely used if Great Britain joins the Common Market.

The need referred to has now been supplied by this large *British Medical Dictionary* edited by Sir Arthur MacNalty in collaboration with over 100 specialist contributors. There is a long tradition of English medical dictionaries, but the labour of preparing this volume must, nevertheless, have been immense. The decision as to what is medical and what is not must often be not an easy one. The foundation of the special language of medicine appears to be anatomy and pathological anatomy, but a complex structure of chemistry, physiology, biology, pharmacy, and psychology has been erected on top of this. Some words like aprication, meaning sunbathing, have lost their currency; others like positron are fresh from the mint. Eponyms are becoming unfashionable, but they are still widely used and it is intensely irritating when they cannot be traced; so Sir Arthur MacNalty and his colleagues have been wise in including them on a generous scale.

For each word there is given the pronunciation, meaning, and derivation. It is usually easy to guess the preferred form. Thus haemopoiesis is preferred to haematopoiesis, and leucocytosis and similar words are spelt with a c, only leukaemia and its derivatives having a k. The derivation and pronunciation of words in subheadings is not given, and the reader with little Latin may continue in doubt whether mellitus has a long or a short i. All this material has required a book of nearly 1,700 double-column pages which weighs 7½ lb., but which has been beautifully bound so that it lies flat wherever it is opened, like a good bible on a lectern. It is clearly printed, and even the presbyopic can read it without difficulty. There are no illustrations, as is proper in a book that is a dictionary and not an encyclopaedia.

As a member of an ancient university whose members are not often lavish in their praise of each other I have been impressed by the high esteem in which lexicographers are held. Their work is indeed one of the best examples of pure scholarship. George Bernard Shaw once foolishly boasted that he never needed to consult a thesaurus, but it is my experience that the better the scholar a man is the readier he is to check the words and phrases he uses. The Germans have the beautiful word *Wortschatz* (word treasure) to mean a man's vocabulary, and the vocabulary of the English language is of unequalled richness. Some recent writers on English as a tool for the expression of scientific ideas appear to have forgotten that there were great men before Fowler, men like R. L. Stevenson and Pater, and the use of the utterly correct word is usually to be preferred even if it is unfamiliar and demands some effort from the reader.

It is with ideas like these in mind that one welcomes this great new dictionary. It is the work of many men's hands, and it would be presumptuous to criticize it in detail after superficially scanning its pages. Dictionaries on this scale are unlikely to be started more than once in a generation. Language, however, is a living and changing thing, and at present our language is evolving rapidly as a result of the revolutionary changes in science. It is to be hoped, therefore, that this dictionary will be given the kind of support that will enable it to remain a standard reference work and to be issued in successive editions through the years so that it becomes an indispensable guide to all who contribute to medical literature in English.

L. J. WITTS.

PROGRESS IN CLINICAL SURGERY

Progress in Clinical Surgery. By various authors. Edited by Rodney Smith, M.S., F.R.C.S. Series II. (Pp. 327+ix; illustrated. 50s.) London: J. and A. Churchill Ltd. 1961.

This is an authoritative work and therefore should be widely read by surgeons and by candidates for the final F.R.C.S. examination. In the opinion of the reviewer, however, and despite prophetic apologies by the editor, it is a pity that there are important omissions, for this fact impels the student to turn elsewhere to obtain a more complete picture of recent advances in surgery. Thus there is inevitable overlap and hence unnecessary expenditure of time and money. The 23 contributors effectively cover progress in cardiac surgery, the surgery of cerebrovascular accidents, arterial reconstruction in the treatment of atherosclerosis, hyperparathyroidism, Cushing's syndrome, thyrotoxicosis, thyroiditis, hiatus hernia, the repair of large herniae, hepatectomy, hepatic coma, the treatment of acute haemorrhage from gastro-oesophageal varices, strictures of the common bile-duct, the management of ascites, progress in pancreatic surgery, diverticulitis coli, the management of congenital dislocation of the hip, Hirschsprung's disease, ectopia vesicae, transplantation of the ureters, the treatment of tetanus, and pulmonary resection for metastatic tumours.

Only minor criticisms are justified. Dehydration does not lead to hyponatraemia but, if anything, to hypernatraemia. Intercostal arteries join rather than enter the aorta. A long account of elective cardiac arrest by potassium seems superfluous when alternative methods are stated to be preferable. There may be a place for the surgical treatment of secondary hyperparathyroidism. Determination of the basal metabolic rate may have more significance when it is preceded by adequate sedation. Is it not sometimes expedient to combine prostatectomy with the surgical treatment of a large inguinal hernia, and is there no place for unilateral orchidectomy in such cases? Are the expressions water and electrolyte balance or imbalance to be taken literally? Is the isolated rectal bladder always sterile?

The book is beautifully produced. The paper, printing, and illustrations are first rate. The text

contains some examples of unorthodox punctuation and unusual use of words. Two inaccurate references were noted. The majority of the chapters defy criticism and are a pleasure to read.

RALPH SHACKMAN.

LEUCOCYTE ANTIBODIES

Leukocyte Agglutinins. Properties, Occurrence, and Significance. By Sven-Åge Killmann, M.D. (Pp. 95. 20s.) Oxford: Blackwell Scientific Publications. 1961.

Much of the literature available now on leucocyte antibodies is very confusing, because a great deal of it is contradictory. This applies particularly to the technique of detecting these antibodies *in vitro*. In this small but highly informative book the author has endeavoured to gather together all the available literature on the subject, and has supplemented this with details of his own technique, together with a critical appraisal of the techniques of other workers in the field.

The most widely used method for detecting leucocyte antibodies is the leucocyte agglutination test, and the technical simplicity of this test gives it a distinct advantage over other tests. Complement consumption tests and antiglobulin consumption tests, which are described briefly, are much more time-consuming and have the big disadvantage of requiring a very large number of white cells. However, the author recommends that the agglutination test should be supplemented by one of these other tests as they detect incomplete antibodies which may occur in sera lacking leucocyte agglutinins.

Most leucocyte antibodies are iso-antibodies, resulting from immunization with foreign leucocytes, either by transfusion or during pregnancy. The author defines his criteria for terming an antibody "naturally-occurring," and concludes that as yet there is no record of any leucocyte antibodies definitely meeting these requirements. Instances of "auto-aggression" are described in which leucocyte agglutinins are present which damage the patient's own leucocytes, and the literature is reviewed on the occurrence of such antibodies in various diseases and after administration of certain drugs

The chief practical importance of leucocyte antibodies lies in the fact that they may be responsible for severe transfusion reactions which can be avoided by the use of leucocyte-free blood. Though the author supplies several references to the techniques of removing the leucocytes, it would have been better had he included details of at least one of them.

This book is well written and shows abundant evidence of the author's wide experience. This is a book which should prove to be indispensable to anyone interested in leucocyte antibodies.

M. J. POLLEY.

BIOCHEMISTRY OF ENZYMES AND HORMONES

Fermente—Hormone—Vitamine: und die Beziehungen Dieser Wirkstoffe Zueinander. Volume I. *Fermente.* Edited by R. Ammon and K. Myrback. Third edition. (Pp. 564+xx; illustrated. DM. 96.) Stuttgart: Georg Thieme Verlag. 1959. Volume II. *Hormone.* Edited by Robert Ammon and Wilhelm Dirscherl, with 14 contributors. Third edition (Pp 897+xxiv; illustrated. DM. 148.) Stuttgart: George Thieme Verlag. 1960.

This is the third edition of a work which has firmly established itself on the shelves of reference libraries since its reintroduction in 1943. (The first pre-war edition was in 1937.)

Volume I systematically covers the biochemistry of enzymes, and, being a two-author book, it is more readable than many a similar treatise of which the text has flowed from several pens. The introduction to enzyme chemistry and the large group of hydrolases is dealt with by Professor Ammon, and all the remaining enzymes—the transferases, isomerases, decarboxylases, and so on—are discussed by Professor Myrbäck.

One has nothing but praise for the gigantic effort that has gone into the production of this encyclopaedic work, though it seemed to the reviewer that more emphasis might have been given to the growing points of this branch of biochemistry, notably in the chapter on transformylation. In the introductory chapter on enzyme action one would have liked to see a fuller discussion of the theories of enzyme action. The general lack of emphasis makes it difficult to recommend the book to students. These minor criticisms do not detract from the intrinsic value of the work. It will be welcomed by all research workers and may even find favour with the biochemically orientated clinician who masters the German language.

In Volume II the two editors have called on a dozen colleagues to give the work its full breadth and width. Most substances that can be classified as hormones, whether they belong to animal or plant tissue, are described in detail. The authors have succeeded to a large measure in producing a thoroughly comprehensive survey of the subjects, and the well-balanced presentation has skilfully avoided the overlapping of the various aspects. It is apparent, however, that some of the authors were in difficulties with regard to references to clinical conditions, as the book was not intended to be a treatise on endocrinology. Hence one wonders why totally inadequate chapters on therapy were included. Similarly, one is surprised at the excursions into the realm of synthetic chemistry, which is of little more than historical interest. Some reading in the steroid chapters the reviewer found overburdened with poorly co-ordinated detail, which instead of stimulating him left him with mental indigestion. Other chapters, like that on tissue hormones by P. Holtz, are outstanding in their lucidity of style and clarity of insight. This volume, like its companion, can be warmly recommended to the research worker for reference, though few references go beyond 1957. The minor criticisms voiced here should not detract from the great merits of the work—in fact, there is nothing quite like it available in the English language.

The printing and binding of these two volumes are of the good quality and high standard one is accustomed to from the Thieme Verlag.

E. KAWERAU.

THE DYNAMICS OF SUBNORMALITY

Subnormal Personalities. Their Clinical Investigation and Assessment. By C. J. C. Earl, F.R.C.P.I., D.P.M., F.B.Ps.S. With additional material by H. C. Gunzburg, M.A., Ph.D., F.B.Ps.S. Foreword by Kenneth Soddy, M.D., D.P.M. (Pp. 338+xiv. 30s.) London: Baillière, Tindall and Cox. 1961.

C. J. C. Earl was best known for his work on "The Primitive Catatonic Psychosis of Idiocy." In this posthumous work he expounds his dynamic interpretation of mental subnormality. He points out, quoting Sarason, that once the patient is classified as mentally deficient he is treated as such and not subjected to the psychotherapeutic procedures which have been found effective with patients of normal intelligence.

This book is based for the most part on Earl's experience of the school at Monyhull Hospital, Birmingham. The school was probably a part of the hospital. He regarded this arrangement as desirable since it provided psychiatric care for the children, which is not usually available in residential schools for the educationally subnormal. It is, however, possible to argue that the price is too high. Perhaps it would be better to provide psychiatric care but site the school in proximity to the general community. This would fit in better with Earl's general postulate that much of subnormality is " pseudo-hereditary " and is but a reflection of the cultural *milieu*. In this connexion, however, the author overstates his case against the importance of gross pathological factors in the production of subnormality (feeble-mindedness, moronism).

In his preface Earl points out that his concern is with the clinical assessment of the individual case. He does not assume that low intelligence is necessarily a cause of the symptoms of social breakdown. The truth of this statement is borne out by the consideration that the great majority of the, say, 3% of the population who score below an intelligence quotient of 70 on standard tests do not have special schooling and manage to find jobs without special guidance.

This publication was rendered possible by the careful editorship of H. C. Gunzburg, who has contributed some valuable sections. Dr. Gunzburg is consultant psychologist at Monyhull, in which connexion Earl points out the need for a close liaison between psychiatrist and psychologist who " should not be confined to the test room or quantitative observations."

Earl's racy description and trenchant criticism of established views will be appreciated by all readers. It is doubtful whether his typological scheme will find many adherents. The experience of Hilliard and of O'Connor and Tizard suggests that the best test of social adaptation is trial.

BRIAN KIRMAN.

STAMMERING

Causes and Cure of Stammering. By Murli Lal Mathur, B.A. (Pp. 94+iii. 15s.) Jodhpur: Murli Lal Mathur. 1960.

In common with other recent writers on stammering, Mr. Mathur claims to have cured his own stammer which afflicted him in youth and later at college. The present booklet is an amplification of an earlier publication of 1952. The author was encouraged by the opinions he received then, and, now that he has retired from Government service, he has had the leisure to arrange his observations and advice more for the benefit of those who suffer from stammering than for the professions of medicine and speech therapy.

Mr. Mathur evidently regards stammering as a purely psychological phenomenon, an opinion with which all may not agree. He furnishes a psychological study of the problem based on his own experiences, with observations on stammering in relation to age, environment, personality, and emotional disturbance, most of which is already well known. There follows much general advice to the stammerer, with emphasis on introspection and the attainment of self-confidence; also various exercises, termed " practices," are devised to assist in overcoming the stammer. In general, the treatment of stammering remains so unsatisfactory that much that is contained in this small volume—with several typographical errors—may be of considerable help to those who stammer, and some parts of assistance even to speech therapists.

C. WORSTER-DROUGHT.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received.

Illustrations of the Nervous System. Atlas II. By Louis Hausman, M.D. (Pp. 168+xxxi; illustrated. 76s.) Springfield, Illinois: Charles C. Thomas. Oxford: Blackwell Scientific Publications Ltd. 1961.

Cancer of the Nasopharynx. Its Natural History and Treatment. By M. Lederman, M.B., D.M.R., F.F.R. (Pp 117+x; illustrated. 54s.) Springfield, Illinois: Charles C. Thomas. Oxford: Blackwell Scientific Publications Ltd. 1961.

Selected Readings in Pathology. By Esmond R. Lond, M.D., Ph.D. Second edition. (Pp. 306+ix; illustrated. 68s.) Springfield, Illinois: Charles C. Thomas. Oxford: Blackwell Scientific Publications Ltd. 1961.

Chemistry of Digestive Diseases. By John R. Gamble, M.D., and Dwight L. Wilbur, M.D. (Pp. 120+xiv; illustrated. 36s.) Springfield, Illinois: Charles C. Thomas. Oxford: Blackwell Scientific Publications Ltd. 1961.

Forensic Medicine. By Keith Simpson, M.D.(Lond.). Fourth edition. (Pp. 355+viii; illustrated. 32s. 6d.) London: Edward Arnold (Publishers) Ltd. 1961.

The Health of the Aged. An investigation into the health and a number of social and psychological factors concerning 3,149 aged persons in the Netherlands, carried out by 374 general practitioners under the direction of the Organization for Health Research T.N.O. by R. J. Van Zonneveld, M.D. (Pp. 439+xx. No price.) Assen, Holland: Van Gorcum and Co. 1961.

The Nomenclature of Disease. Drawn up by a joint committee appointed by the Royal College of Physicians of London. Eighth edition. (Pp. 398+xi; 22s. 6d.) London: H.M. Stationery Office. 1960.

Transactions of the Association of Life Insurance Medical Directors of America. Sixty-Ninth Annual Meeting. Vol. XLIV. Edited by Whitman M. Reynolds, M.D. (Pp. 238+ix; illustrated. New York City: Press of Recording and Statistical Corporation. 1961.

Oncogenic Viruses. By Ludwik Gross, M.D. (Pp. 393+xi; illustrated. 80s.) Oxford, London, New York, Paris: Pergamon Press. 1961.

Doctors, Patients and Health Insurance. By Herman Miles Somers and Ann Ramsay Somers. (Pp. 576+xix; illustrated. 54s.) London: Faber and Faber. Washington, D.C.: The Brookings Institution. 1961.

Kernicterus. Report based on a symposium held at the IX International Congress of Paediatrics, Montreal, July, 1959. Edited by Andrew Sass-Kortsak. (Pp. 221+xi; illustrated. 68s.) University of Toronto Press. 1961.

Hospital Careers for Girls. By Joan Llewelyn Owens. (Pp. 160. 15s.) London: The Bodley Head. 1961.

Your Heart. A Handbook for Laymen. By H. M. Marvin, M.D. (Pp. 303. 21s.) London: Hodder and Stoughton. 1961.

The Theory and Practice of Public Health. By W. Hobson, B.Sc., M.D., D.P.H. (Pp. 354; illustrated. 60s.) London, New York, Toronto: Oxford University Press. 1961.

The Control of Poliomyelitis by Live Polio-virus Vaccine. Edited by J. Weissfeiler. (Pp. 155; illustrated. 37s. 6d.) Budapest: Akademiai Kiado. London: Collet's. 1961.

Personality Structure and Human Interaction. The Developing Synthesis of Psychodynamic Theory. By Harry Guntrip, Ph.D. (Pp. 456. 45s.) London: The Hogarth Press Ltd. 1961.

Ergebnisse der Bluttransfusionsforschung. Vol. VI. By von Dr. G. W. Orth. (Pp. 396+illustrated. Sw. fr. 58.) Basle, New York: S. Karger. 1961.

Advances in Tuberculosis Research. Vol. II. Edited by Dr. Hans Birkhauser, Dr. Hubert Bloch, Dr. G. Canetti. (Pp. 279; illustrated. Sw. fr. 68.) Basle, New York: S. Karger. 1961.

The Whole Child. By Alex G. Mearns, M.B.E., M.D., B.Sc., D.P.H., F.R.S.E. (Pp. 99. 7s. 6d.) Harpenden: Home's Printing Technical School. 1961.

BRITISH MEDICAL JOURNAL
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FALL-OUT

The renewed detonation of hydrogen bombs in the atmosphere has raised anxiety over the possible consequences of further fall-out. Understanding of this hazard has improved substantially since the last large explosions nearly three years ago, but predictions about the delivery of radioactive debris from the present series of tests, its incorporation in food chains, and its eventual biological effects must still be hedged with reservations and uncertainties. Early reports of increasing levels of radioactivity in air and rain need not cause alarm. Nuclear explosions of relatively low energy (up to about 200 kilotons T.N.T. equivalent) made near the earth's surface send radioactive products only into the lower regions of the atmosphere, where wind, rain, and snow effect a widespread distribution in a few weeks. Most of the contamination from megaton weapons is propelled into the stratosphere at a height of several miles above the earth and descends more slowly. The prompt fall-out from these large explosions is meagre in amount and of little biological importance, though its analysis gives useful clues to the design of the bombs responsible. Early tests of megaton weapons was made in tropical latitudes, and subsequent measurements indicated that the bulk of the fall-out remained aloft for a few years. Russian tests made during the autumn of 1958 were followed in the spring of 1959 by heavy fall-out in the northern hemisphere. It is now known that these explosions occurred in Arctic latitudes, where the stratosphere communicates more readily with the lower air; consequently the radioactive debris may be held up only for a matter of months.

It has been observed for several years that the amount of fall-out reaching the ground rises to a peak in the spring. This effect is not due to the prevalence of weapon tests in the autumn, but occurs because much of the fall-out is delivered to the lower atmosphere (where it can be distributed by rain) through the sinking of the polar air in the winter; except for this process there is not much transfer of air from the stratosphere to the lower regions. It is therefore to be expected that the full effect of the recent explosions will not be detected until the early part of 1962. Contamination of new grass will cause the concentration of strontium-90 in milk to reach a peak in the early summer; the size of this effect will be the first reliable indication of the future trend.

The next important sign will be found by studying the amounts of strontium-90 in the bones of newborn infants. Values found by investigations of this kind reflect the amount of radioactive contamination in the general diet, since the new bone built during the pre-natal period is in equilibrium with the maternal blood plasma (though the concentration of strontium-90 is roughly halved in crossing the placenta). British measurements[1] on bone samples from stillborn infants showed a sharp rise in strontium-90 during the first half of 1959, followed by a slow decline. The highest levels of strontium-90 should, as in previous years, be found in young children between a few months and 2 years old.

Though the general pattern of these changes can be foreseen fairly clearly, their extent will depend on the magnitude of the weapon-testing programme and on a number of imponderable factors both meteorological and nutritional. It is, however, certain that any detonations in the 100-megaton range, mentioned in the official Russian announcement concerning the resumption of testing, will raise the contamination of the atmosphere and of human bone to levels not previously experienced.

Up to 1959 the total yield of all nuclear weapon tests was equivalent to 174 megatons of T.N.T.[2] Of this total explosions equivalent to 92 megatons were produced by fission of uranium or plutonium, with radioactive fall-out; the other 82 megatons came from the fusion of hydrogen, with no fall-out. It is believed that large hydrogen bombs derive about half of their energy from fission. Consequently two explosions each with a total yield of 100 megatons would produce more fall-out than all of the nuclear weapons detonated between 1945 and 1958. According to an official of the United States Weather Bureau[3] the Russian tests made during the autumn of 1958 were equivalent to a total yield of about 50 megatons. A repetition now of the 1958 programme would raise the concentration of strontium-90 in food and bone beyond the high levels observed in 1959. Contamination of the diet tends to rise sharply (because of prompt contributions from fresh milk and vegetables) and to fall more slowly (because milk products, processed cereals, and tinned vegetables may be a year or two old before they reach the table).

[1] *Assay of Strontium-90 in Human Bone in the United Kingdom* (Medical Research Council's Monitoring Report Series No. 1, 1960, and No. 2, 1961. H.M.S.O., London. See annotation, *Brit. med. J.*, 1961, 2, 695.
[2] *Scientific American*, September, 1959, p. 88.
[3] *Guardian*, September 16, 1961.
[4] *The Hazards to Man of Nuclear and Allied Radiations: A Second Report to the Medical Research Council*, 1960. H.M.S.O., London.

The outcome of indefinitely continued testing at the level prevailing in 1958 has been considered.[4] The amount of strontium-90 in the average daily diet, which was about 10 $\mu\mu$c in 1959, might eventually rise to 30 $\mu\mu$c. The corresponding bone concentration would be 7.5 S.U. (1 strontium unit = 1 $\mu\mu$c of strontium-90 per g. of calcium; in 1960 average amounts in bone were about 1.0 S.U. in the 5–20 year age-group and under 0.2 S.U. in adults). The annual radiation dose-rate due to fall-out would then be about 34 millirads in bone, 21 millirads in bone-marrow, and 14 millirads in gonads; the natural background in Britain is about 100 millirads per year, and the average gonad dose from diagnostic radiology in 1957–8 was about 14 millirads per year.

Continued testing of hydrogen bombs on the scale established in 1958 (and presumably to be repeated or exceeded this autumn) would increase the radiation burden of the British population substantially but not disastrously. The estimates on which this judgment is based may be in error by a factor of two or three either way. It is therefore important that facilities for monitoring fall-out in food and in human bone should be kept in good shape. Prompter and more frequent publication of the experimental findings would also be welcome.

THALIDOMIDE NEUROPATHY

Of the many hypnotic drugs in common use in Great Britain it is probable that the barbiturates are still the most widely prescribed. The practitioner has a choice of many preparations from the comparatively short-acting barbiturates such as cyclobarbitone and quinalbarbitone sodium to the intermediate barbiturates butobarbitone, amylobarbitone sodium, and pentobarbitone sodium, and the long-acting remedies barbitone and phenobarbitone. A combined tablet containing pentobarbitone and carbromal is also in common use, particularly for elderly patients. Intolerance and toxic reactions to the barbiturate group of drugs are not common, though they are well documented. The barbiturate rash is recognized, and in the elderly a confusional state is frequently seen after continued barbiturate administration, while delirium and convulsions may occur after withdrawal. Chronic intoxication and habituation are also familiar and result in a neurological picture of vertigo, peripheral tremor, ataxia, and double vision which has often led to neurological investigation for a suspected underlying intracranial tumour. Another serious disadvantage of the barbiturates is the frequency with which they are used for suicidal attempts.

Taking into account these drawbacks many practitioners have turned to the non-barbiturate hypnotics. These include chloral hydrate, which though safe and well-tolerated, especially by children, is difficult to administer because of its unpleasant taste. Recently it has become possible to administer this drug in a capsule which is readily palatable. Dichloralphenazone ("welldorm") acts by virtue of its chloral content and is also a relatively safe hypnotic. Paraldehyde, because of its taste and difficulty of administration, has fallen out of favour as a general hypnotic, though it is still regarded as helpful in status epilepticus and for mentally disturbed patients. Similarly, though chlorpromazine and its analogues are of great value for inducing sedation, the so-called tranquillizing drugs are not as a rule satisfactory if given alone in the treatment of insomnia.

In recent years some new non-barbiturate drugs have been developed and are being prescribed in Great Britain to an increasing extent. One of these is glutethimide ("doriden"), which appears to be safe and non-toxic, though its hypnotic effect is comparatively mild. More recently thalidomide ("distaval") has been tried out in Britain after its development and early use in Germany. It is a safe sedative and hypnotic drug and has the singular advantage of very low toxicity; many patients have recovered rapidly and completely after taking large doses in a suicidal attempt. The drug acts within 15–30 minutes of its oral administration, its effect lasts from 5 to 7 hours, and in a dosage of 100–200 mg. it is an effective hypnotic. Now recent reports[1–5] have described patients who developed a poly-neuropathy after the regular use of this remedy. A further thirteen cases are described by Drs. P. M. Fullerton and M. Kremer in the *Journal* this week (p. 855). All the patients had been taking the drug regularly for periods of 2 to 18 months in a dosage varying from 50 to 400 mg. each evening before symptoms developed. The onset of the peripheral neuropathy was marked by paraesthesiae and numbness in the feet spreading later to the hands and associated in some cases with weakness and muscular cramps. Physical examination revealed in all cases superficial sensory loss of glove-and-stocking distribution, with motor weakness, redness of the palms, and excessively brittle nails in some. Although examination of the spinal fluid showed the protein content to be above 50 mg. per 100 ml. in five cases, the authors were unable in the light of other investigations to explain the mechanism of the drug's

[1] Burley, D., *Brit. med. J.*, 1961, **1**, 130.
[2] Florence, A. L., ibid., 1960, **2**, 1954.
[3] Kuenssberg, E. V., Simpson, J. A., and Stanton, J. B., ibid., 1961, **1**, 291.
[4] Raffauf, H. J., *Dtsch. med. Wschr.*, 1961, **86**, 935.
[5] Scheid, W., Wieck, H. H., Stammler, A., Kladetzky, A., and Gibbels, E., ibid., 1961, **86**, 938.

toxic action. They pointed out that glutethimide, which is chemically related to thalidomide, has not been reported to cause neuropathy. A significant feature of this series of thirteen patients is that none have shown much improvement in their symptoms or signs on withdrawal of the drug, though the polyneuropathy did not progress after its withdrawal.

Clearly the perfect hypnotic has not yet been discovered. While the proportion of patients taking thalidomide who develop a polyneuropathy is small, and while the incidence of this complication of treatment is not sufficient, in view of its other advantages, to suggest that the drug should never be prescribed, greater caution in its use is needed and it should not be prescribed for long periods except under regular and careful supervision. The development of peripheral paraesthesiae in patients under treatment must be an indication for immediate withdrawal. It is to be hoped that further pharmacological research will lead to the development of additional new, effective, and safe non-barbiturate hypnotics, which do not have this disturbing, though infrequent, side-effect.

ORAL LEUCOPLAKIA

Oral leucoplakia still presents us with difficult problems—diagnostic, aetiological, therapeutic, and prognostic. It is a purely descriptive term for the appearance of white patches or plaques on the mucosa, and, as W. G. Shafer and C. A. Waldron[1] point out, neither clinicians nor even pathologists agree on the exact meaning of the word. The diagnosis, when based on strict histological criteria, may sometimes be made in the absence of a white patch.

Sir Stanford Cade[2] defined leucoplakia as a "chronic process affecting the mucous membrane of the mouth and tongue, characterized by the development of irregular, pearly white patches of keratinized epithelium ultimately tending to undergo malignant changes." Similar statements appear throughout the literature, and, as B. E. D. Cooke[3] remarks, all white patches, whether they form on the cheeks, palate, or tongue, surrounded by erythematous mucosa or not, whether the aggravating factor is smoking or biting the cheeks, are grouped together and given the same symptoms, histopathology, and prognosis. Cade's gloomy view of the prognosis is not shared by more recent investigators of this condition.

The onset of the disease is sometimes marked by soreness of the buccal mucosa provoked by quite bland food and drink. Later sharply outlined, dull or silver white patches, streaks, or bands appear. When caused by friction, as in chewing the cheeks, the mucosa around the plaques may be erythematous and the occlusal line of the cheeks is affected. Leucoplakia associated with pipe smoking is found on the palate and tongue and with cigarette smoking on the cheeks. In tertiary syphilis, now an uncommon cause of leucoplakia, the tongue may be affected.

But leucoplakia of the mouth is found in non-syphilitic non-smokers who do not chew their cheeks. Various possible causes have been suggested but not confirmed. O. G. Hazel and colleagues[4] investigated electromotive forces in the mouth and the possibility of leucoplakia resulting from the deposition of metallic ions from dental fillings. Lack of vitamin A has also been suggested as a cause, and D. N. Mulay and F. Urbach[5] reported improvement of leucoplakia in a small series of patients treated with oral troches containing this vitamin. It is a far cry to the tissue-culture work of Honor Fell[6,7] on chick embryo epidermis, but she was able to show that the addition of vitamin A to such cultures caused the epidermis to become changed to mucosa. Recently the same phenomenon has been demonstrated in the hamster.[8] More work on the local treatment of leucoplakia with vitamin A seems worth while.

Shafer and Waldron found leucoplakia to be more common in women than previously believed. In their series of 286 patients a third were women, and 81% of both sexes were over 40 years of age. The same workers have studied histologically 332 tissue specimens from these patients. In about 25% there was hyperkeratosis without ancanthosis and with acanthosis in the same proportion. In 31% there was parakeratosis with acanthosis and in only about 10% was carcinoma present.

In the differential diagnosis of oral leucoplakia lichen planus may provide difficulty in the absence of skin lesions, and this is not uncommon. Cooke,[9] in a series of 50 patients with lichen planus of the mouth resembling leucoplakia, found that the skin was affected in only a tenth. Lichen planus in the mouth has an appearance aptly described as like porcelain, and these patches, unlike those of leucoplakia, come and go. Lichen planus of the mouth is more common in women and may be associated with similar patches on the mucosa of the rectum. Other conditions which may have to be

[1] Shafer, W. G., and Waldron, C. A., *Surg. Gynec. Obstet.*, 1961, **112**, 411.
[2] Cade, S., *Malignant Disease and Its Treatment by Radium*, 1949, 2nd ed., vol. 2, p. 144. Bristol.
[3] Cooke, B. E. D., *Brit. J. Derm.*, 1956, **68**, 151.
[4] Hazel, O. G., Charles, G. W., and Diamond, L. E., *A.M.A. Arch. Dermat.* 1950, **61**, 781.
[5] Mulay, D. N., and Urbach, F., ibid., 1958, **78**, 637.
[6] Fell, H. B., and Mellanby, E., *J. Physiol.*, 1953, **119**, 470.
[7] —— *Proc. roy. Soc. B*, 1957, **146**, 242.
[8] Lawrence, D. J., and Bern, H. A., *Exp. Cell Res.*, 1960, **21**, 443.
[9] Cooke, B. E. D., *Brit. dent. J.*, 1954, **96**, 1.

considered in the differential diagnosis are the mucous patches of secondary syphilis and lupus erythematosus of the buccal mucosa. Other evidence of these diseases will be present. Thrush should cause little difficulty, and oral epithelial naevi will have been present from birth. Whenever there is doubt the examination of a biopsy specimen should resolve it.

The prognosis of leucoplakia buccalis is not as poor as used to be believed. No doubt this is partly because the incidence of syphilitic glossitis has been so greatly reduced. The prognosis must depend on the histological findings, but, as Shafer and Waldron have shown, the majority of examples of clinical leucoplakia are histologically benign.

The treatment of leucoplakia can only be outlined here. Local irritation from teeth or dentures must be removed and the use of tobacco avoided. If malignant changes have taken place, the area may be treated by electrocoagulation, cauterization, surgical excision, or perhaps by radiotherapy. This, however, is often ineffective unless used in heavy dosage. In early lesions solid carbon dioxide may be useful. Most patients with this condition can be reassured and treated conservatively, but should be kept under observation.

CORONARY ANGIOGRAPHY

The predominance of coronary disease over all other causes of death in middle-aged and older men in civilized communities, and the present failure of prevention and of medical treatment, are leading to attempts at a direct surgical attack on coronary atheroma. An exceedingly clear picture of the coronary tree is required, however, before endarterectomy can be considered. Other requirements of coronary angiography are that it should help to exclude advanced coronary disease before major cardiac surgery such as aortic valvotomy, and eventually to assist in diagnosis, to study the natural history, and to assess the results of medical and surgical treatment. C. T. Dotter and L. H. Frische[1] give credit to P. Rousthöi[2] as the first to study opacified coronary arteries in life, but satisfactory pictures were probably first obtained by G. Jönsson and colleagues[3] in the course of thoracic aortography for patent ductus and coarctation, and these pictures were examined by L. Di Guglielmo and M. Guttadauro.[4]

The techniques for coronary angiography have included aortography, aortography with various modifications to increase coronary flow, and selective coronary cannulation. Aortography has been the technique used by most workers and has the advantages of simplicity and speed with maximum safety because no differential anoxia of the myocardium is produced, and it also has the advantage of availability of controls, since this technique is used for other purposes.

D. E. Gregg's[5] diagram of the timing of coronary flow shows that there is little or no flow during systole. Contrast medium injected into the aorta during systole is therefore ineffective and is washed away by the systolic ejection of blood from the left ventricle. Dotter and Frische[1] overcame this difficulty by blowing up a balloon on a catheter distal to the injection, but it proved to be a difficult technique. Cardiac arrest by acetylcholine was suggested by D. E. Gregg and D. C. Sabiston[6] and there has been a large experience of this in dog experiments in which it has proved safe and effective.[7] G. Arnulf and P. Buffard[8] have applied this technique to human subjects with considerable success. It may be thought, however, that acetylcholine arrest is rather hazardous.

In accordance with a suggestion of L. S. Richards and A. P. Thal,[9] electronic devices fired by the QRS wave of the electrocardiogram have been constructed so that injections of contrast medium can be timed to occur in early diastole.[10] These authors obtained good filling of the coronary arteries in dogs. They found that a film taken immediately after the injection showed proximal filling of the coronary arteries most clearly, while the film had to be taken considerably later to show distal filling, thus requiring a rapid film changer. It was possible, however, to give a series of two or three injections with a single film taken after the last injection which showed both proximal and distal filling. This technique of diastolic aortography has been applied to human subjects and the procedure appears to be safe, but in the presence of coronary disease inadequate filling of the coronary arteries was obtained by investigators at St. George's Hospital, London. There was evidence that a coronary artery which was narrowed, yet able to carry an appreciable quantity of blood, might not be opacified by an aortic injection even when made in diastole.[11] These investigators have therefore adopted the technique of coronary cannulation devised by Mason Sones of the Cleveland Clinic. A special catheter is advanced from the right brachial artery into the proximal aorta, and 2 or 3 ml. of contrast medium is injected by hand to identify the coronary sinuses and the origin of each coronary artery, into which the tip of the catheter is then advanced. Very careful fluoroscopic control using image amplification is essential. A series of small injections of 2 to 8 ml. of contrast medium are given until adequate pictures are obtained.

After coronary cannulation and injection of contrast medium, direct radiography can be used with a single

1 Dotter, C. T., and Frische, L. H., *Radiology*, 1958, **71**, 502.
2 Rousthöi, P., *Acta radiol. (Stockh.)*, 1933, **14**, 419.
3 Jönsson, G., Broden, B., and Karnell, J., ibid., 1951, suppl. 89.
4 Di Guglielmo, L., and Guttadauro, M., *Radiol. med. (Torino)*, 1954, **40**, 945.
5 Gregg, D. E., *Coronary Circulation in Health and Disease*, 1950, London.
6 —— and Sabiston, D. C., *Circulation*, 1956, **13**, 916.
7 Sloman, G., and Jefferson, K., *Brit. Heart J.*, 1960, **22**, 54.
8 Arnulf, G., and Buffard, P., *Ann. Radiol.*, 1959, **2**, 685.
9 Richards, L. S., and Thal, A. P., *Surg. Gynec. Obstet.*, 1958, **107**, 739.
10 Jefferson, K., and Mitchell, G., *Brit. Heart J.*, 1961, in press.
11 Leatham, A., Proceedings of the Atherosclerosis Discussion Group, May, 1961.

film or, better, a series of films in a rapid changer. It seems even better, however, to follow Mason Sones and use cineradiography, for this lessens blurring during violent movements of the heart, shows the direction of coronary flow, which may be retrograde from anastomotic channels, sorts out overlapping vessels, and allows immediate visual control, so that repeated injections can be made, in different views if necessary, until the whole coronary arterial tree has been satisfactorily displayed. Great caution is necessary, because differential anoxia of the myocardium will result from this technique. Careful monitoring of the electrocardiogram and the pressure pulse should detect the first sign of coronary obstruction, and the catheter is then withdrawn. There is a risk of inducing ventricular fibrillation or cardiac standstill, and it is therefore essential to have in readiness all measures necessary for treatment—such as external chest "massage" and an external defibrillator and pacemaker. Despite the potential risks Mason Sones has performed this investigation in over 600 patients with only two deaths, and he deserves great credit as a pioneer in this field and as the first to put coronary angiography on a practical and worth-while basis.

HUMAN TISSUE ACT, 1961

The Common Law principle that there can be no property in a human corpse has resulted in the rule that a person cannot by will or otherwise legally dispose of his body after death, and any directions he may make are ineffective except in particular cases dealt with by Statute. The Anatomy Act, 1832, made provision, subject to certain safeguards, for the anatomical examination of a body after death. Until this week the Corneal Grafting Act of 1952 made possible the removal of eyes after death for therapeutic purposes. The Human Tissue Act, 1961, now in force, includes a restatement of the Corneal Grafting Act (with some modifications) but in terms having a general application to the whole body or any specified part of the body. Further, the Human Tissue Act is wider in scope than the earlier Act in that it applies to donations of tissue "for purposes of medical education or research" as well as for therapeutic purposes.

The removal of human tissue authorized by the Act must be performed by a registered medical practitioner, who must himself ascertain that life is extinct. Whenever a person has reason to believe that an inquest or post-mortem might be required by the coroner nothing may be done under this Act except by leave of the coroner. For the purpose of dispelling doubt Section 2 of the Act makes it clear that post-mortem examinations (other than those directed or required to be made by a competent legal authority), if carried out in accordance with that section for the purpose of establishing or confirming the causes of death or of investigating the existence or nature of abnormal conditions, will not contravene the provisions of the Anatomy Act, 1832.

As was provided by the Corneal Grafting Act, so also under the new Act, tissue may be donated either by the deceased himself or by the person lawfully in possession of the body. If a person "in writing at any time or orally in the presence of two or more witnesses during his last illness" has requested that his body or part of it be used for one of the authorized purposes, then the person lawfully in possession of his body after his death *may* authorize removal of tissue for that purpose. Alternatively, in the absence of such request, the person lawfully in possession of the body may authorize removal, but in this case only if "having made such reasonable inquiry as may be practicable" he has no reason to believe that the deceased made any objection or that the surviving spouse or any surviving relative makes any objection.

When a person dies in hospital the governing body of the hospital is lawfully in possession of the body until it is claimed by the executors. When a person dies at home, or when the body is taken to his home, it is generally in the possession of the surviving spouse or one of the relatives. It is thus possible that the expressed wishes of the deceased may be defeated by his relatives if his body is lawfully in their possession (but not otherwise), for the Act makes compliance with the deceased's request permissive only and not obligatory.

It is no doubt preferable in the long run that public opinion should be changed by education rather than by legally overruling the feelings of relatives, even though such feelings are depriving many blind and other patients of tissues from which they could benefit. The Royal National Institute for the Blind, with the support of the Ministry of Health, is campaigning for the donation of eyes. Now is the time for all doctors to win over public opinion towards more readily accepting the idea of donating human organs and tissues for therapeutic, educational, or research purposes.

TOO FEW DOCTORS IN UNIFORM

By November of next year the last of the National Service medical officers will have served their time and the armed Forces will have to depend on regular or short-service officers for their medical needs. We have already called attention[1] to the lack of recruits to the medical branches of the Services: the shortage is now serious. Recruitment is nowhere near making good the current loss of National Service doctors. The position appears to be particularly grave in the R.A.M.C. Official reticence on the matter is noticeable, and there has been no sign so far of any disposition to discuss it with the B.M.A. But the Ministry of Defence has not denied a recent estimate[2] that in 1963 the R.A.M.C. will have only 47% of the doctors it will need and in non-specialist categories the deficiencies may be as high as 80% unless recruiting improves.

How to attract doctors into the Services is not a new problem. It has become an urgent one now because

the supply of conscripts is running out and because there is going to be a general shortage of doctors. The Services are having to compete for recruits in an unfavourable market. Service life is no longer able to offer so much to those with an inclination to mix doctoring with travel, adventure, and sport in the more distant parts of the world. Other reasons why the Services are unlikely to compete successfully in the market have been emphasized in a vigorous correspondence which has been maintained in the *Supplement* for most of this year. It began with the grievances of National Service medical officers about their pay. The Treasury's and Defence Ministry's offhand insistence on paying them the "minimum necessary during a limited period of compulsory Government service"[3] was a shortsighted way of treating these potential recruits to the regular ranks. Whatever spark of enthusiasm was left unextinguished by this obtuse policy must have flickered out when the niggardly increases in pay for Service medical officers were announced in May, though the gratuities offered to those accepting short-service commissions looked tempting.[4] Since then a free and therefore useful debate has been continued on the merits and demerits of being a doctor in the armed Forces. Many will agree with Major-General R. E. Barnsley[5] that those with a chip on their shoulder and a plaintive pen in their hand are not representative of the young medical men in the Services. But what has clearly emerged is that Service life does not appeal to most of the younger correspondents who have sampled it. The lack of voluntary recruits is evidence that it has no great appeal to those who have not written. Pay does not seem to be the only or even the major cause of dissatisfaction, although better pay and prospects would undoubtedly compensate for other disadvantages. Lack of clinical interest, the limitations of conforming to a set pattern of Service discipline, and the disturbances to personal and family life due to frequent postings, often at short notice, and lack of married quarters are the matters of complaint which have been most constantly voiced. Added to these there is the prospect of being out of work on retirement at a relatively young age.

That the Services should be adequately supplied with doctors is an obvious necessity. It must be the concern of everyone that sailors, soldiers, and airmen should be properly looked after and should be able to rely on the support of good medical attention in peace and war. The medical profession has a duty to them as much as it has to those in civilian life—perhaps more so, because a man in the Services cannot choose his doctor. Equally those responsible for the organization of the armed Forces have a duty to offer conditions of service which will attract doctors who would be more willing to put on uniform if they felt that by doing so they could get the satisfactions and rewards that their civilian colleagues do. It has been calculated that the average pay, including marriage and ration allowances and the permanent commission grant, of a non-specialist officer in the R.A.M.C. over 32 years' service ending with nine years as a full colonel yields £78,016. The comparable sum for a general practitioner receiving an average net income of £2,425 would be £80,192. Though pay is not everything, some financial inducement is needed to offset the unsettled life of a serving officer. The other means by which good doctors may be attracted into the Forces will require much thought. The problem is not one which will easily be solved. The Ministry of Defence should begin with discussions with the B.M.A.

[3] *Brit. med. J.*, 1961, **1**, 1599.
[3] *The Times*, August 13.
[3] *Brit. med. J.*, 1961, **1**, 1161.
[4] *Brit. med. J., Supplement*, 1961, **1**, 226.
[5] Ibid., 1961, **2**, 145.

FOOD-POISONING IN 1960

In England and Wales there was a reduction of 18% in the "incidents" (general outbreaks, family outbreaks, and sporadic cases) of food-poisoning reported in 1960 compared with the previous year.[1] The decrease was specially notable in incidents caused by salmonellae other than *Salmonella typhi-murium*: these were 43% fewer than in 1959. *Salmonella typhi-murium* was the organism most commonly found when the cause of food-poisoning could be traced. Twenty-five fatal cases of food-poisoning came to the notice of the Public Health Laboratory Service, and 21 were due to salmonella infections, three to *Clostridium welchii*, and one to *Staphylococcus aureus* (in a patient who had had a meal of meat cooked at home two days before it was eaten). All except about 20 of the 165 outbreaks in which the infecting organism was identified were associated with meat, mostly with processed or made-up meats. Of the 24 in which canned meat was incriminated, all were certainly or probably caused by *Staphylococcus aureus*, and since the meat in the cans was often eaten immediately after opening it could be assumed that staphylococcal toxin was present in the tins before they were sealed. Five of these outbreaks were associated with meat from Tanganyika, six with meat from Kenya, and four with meat which might have come from either country.

Unpasteurized milk was responsible for three outbreaks, the largest of which, entailing risk to about 300 householders, was caused by *Salmonella typhi-murium*. Canteens headed the list of places where general outbreaks occurred: most of these were due to *Cl. welchii* or to unknown causes. After canteens came hospitals, where most outbreaks were due to salmonellae.

The fall in the reported outbreaks of food-poisoning is welcome, and it is encouraging that egg and meat products are now less often responsible for salmonella infections than they were not long ago. But food-poisoning and the deaths that it still causes are preventable. Doctors can help by seizing suitable opportunities to explain the rules of food hygiene to their patients, and local authorities should use their strong powers of persuasion to make caterers with low standards see the errors of their ways.

[1] *Monthly Bull. Minist. Hlth Lab. Serv.*, 1961, **20**, 160.

Clinicopathological Conference

MARFAN'S SYNDROME

DEMONSTRATED AT THE

POSTGRADUATE MEDICAL SCHOOL OF LONDON

This is the case of a man with Marfan's syndrome who died, aged 26, in Hammersmith Hospital (Case No. 153,960; P.M. No. 9,089).

Clinical History

Dr. J. F. GOODWIN: This man was first admitted to Hammersmith Hospital in October, 1953, when aged 19, for a left spontaneous pneumothorax. He was noted to have a high, arched palate and arachnodactyly, and his blood-pressure was 115/70 mm. Hg. No cardiac murmurs were heard, and all his pulses were normal. There was no evidence of any cardiovascular disease, but asymmetry of the chest, due to a dorsal kyphoscoliosis, and a marked lumbar kyphos were noted. An *x*-ray of the chest confirmed the left pneumothorax. There was a little fluid in the left pleural cavity, and slight mediastinal shift to the right, but no abnormality of the right lung or of the heart. After two weeks' bed-rest there was considerable, but incomplete, re-expansion of the lung.

In January, 1956, he developed a cough, loss of weight, and haemoptysis, due to pulmonary tuberculosis. He was treated with antibiotics at a sanatorium for nine months. From October, 1956, to January, 1957, he was followed at the Hammersmith Hospital Chest Clinic. By January, 1957, the heart had increased in size, and a loud, early diastolic murmur was audible in the aortic area and down the left sternal border.

SECOND ADMISSION

His second admission was in January, 1957. Examination revealed a well-developed, tall man, 6 ft. 4 in. (1.9 m.) in height, with arachnodactyly and hyperextensible fingers. His ears were prominent but otherwise normal and in the eyes there was no abnormality of the lenses. The palate was strikingly highly arched and the patellae were high.

In the cardiovascular system the jugular venous pressure was normal and the arterial pulse of large volume, with a sharp upstroke and well-marked dicrotic notch. The blood-pressure was 140/90 mm. Hg, and the timing of all the pulses was normal and their character similar. The cardiac impulse was of left ventricular type, with a hyperdynamic localized thrust, 11 cm. from the midline. There was a sternal 'ift due to right ventricular hypertrophy. A grade III, long, early, high-pitched diastolic murmur, maximal at the aortic area, but also down the left sternal edge, was heard. The second heart sound was normal. An early systolic click was audible in the aortic area, but no systolic or mid-diastolic murmurs were heard. The lungs were normal and there was no clubbing of the fingers, splinter haemorrhages, or splenomegaly.

A provisional diagnosis of Marfan's syndrome with aortic valve incompetence, and possibly infective endocarditis, rupture of a sinus of Valsalva, or dissecting aneurysm at the root of the aorta, due to medial necrosis, was made.

Investigations

Blood: The haemoglobin was 16.9 g., W.B.C. 8,000, E.S.R. 2 mm./1 hr. Cultures: negative. (Culture from a boil on the arm yielded *Staph. pyogenes* sensitive to penicillin.) The electrolytes were normal, as were the serum proteins (albumin 4, globulin 3.5 g./100 ml.). The W.R. was negative.

The *cardiogram* was normal (Fig. 1, January 21, 1957).

The *urine* was normal.

X-rays: The *heart* was very large (Fig. 2), the enlargement being mainly due to the left ventricle. There was considerable dilatation and unfolding of the ascending aorta, arch, and thoracic aorta. No aortic calcification was seen. There was an old tuberculous lesion at the apex of the right lung. The *spine* did not show any evidence of spondylitis or hemivertebrae.

Progress

He remained afebrile, and penicillin was given for the boil on the skin, after infective endocarditis had been excluded. The diagnosis was now Marfan's syndrome with medial necrosis, leading to gross dilatation of the aorta and stretching of the aortic valve ring, with aortic incompetence. Further investigation was not thought desirable and the patient was discharged for observation in the out-patient department. Surgical treatment of the aortic incompetence was not thought advisable at the time. He was advised to undertake only light work and to have penicillin cover for any dental extractions. He remained well, was asymptomatic, and able to work as an attendant at a greyhound stadium. By August, 1959, a soft systolic murmur was heard in the aortic area, and a diastolic thrill had developed to the left and right of the sternum. The cardiogram showed T-wave inversion in lead V4, and flattening of the T-wave in V5 due to left ventricular hypertrophy, with right ventricular hypertrophy (Fig. 1, August 13, 1959). Radiography showed further cardiac enlargement (Fig. 3).

He remained well until December, when he developed a sudden, sharp, upper abdominal pain, diarrhoea, and vomiting. This lasted intermittently for two weeks and was followed by progressive dyspnoea on exertion, cough, and sputum.

THIRD ADMISSION

His third admission was in January, 1960. On examination he was orthopnoeic, with signs of severe congestive heart failure, and minimal jaundice. The jugular venous pressure was elevated to the lobes of the ears, with marked systolic pulsation and sharp "Y" descent, indicating tricuspid incompetence. The heart was very large, with an enormous, hyperdynamic, left ventricle, and there was sternal pulsation due to the aortic dilatation and right ventricular enlargement. The arterial pulse was regular and "water-hammer" in type. The blood-pressure was 130/50 mm. Hg, and all the pulses were normal in timing. There was a fourth heart

sound, but no pericardial friction. The murmurs were unchanged. The liver was enlarged and tender, and there was ascites with slight oedema of the legs. No abnormal neurological signs were detected. There were no splinter haemorrhages and no enlargement of the spleen. There were crepitations at the bases of the lungs.

Investigations

Blood: The haemoglobin was 14 g., W.B.C. 13,000 (polymorphs 80%). The serum albumin was 3.3 g./100 ml., globulin 2.4 g./100 ml. (A:G ratio 1.4). Bilirubin 3.2 mg./100 ml. The plasma bicarbonate was 22, sodium 130, potassium 4.7, chloride 88 mEq/litre. Urea 86 mg./100 ml. Blood cultures negative. Glutamic oxaloacetic transaminase 350 units, glutamic pyruvic transaminase 650 units.

The *urine* was normal.

The *sputum* showed scanty Gram-positive cocci, and culture grew *B. proteus* and *Streptococcus viridans*. No tubercle bacilli were found.

X-rays (portable): There was gross cardiomegaly (Fig. 4). The ascending aorta was very greatly dilated, but there was no localized aneurysm. The shape of the cardiac silhouette did not suggest a pericardial effusion. There was some collapse of the lower lobe of the left lung.

The *cardiogram* (Fig. 1, January 12, 1960) showed sinus tachycardia, ventricular ectopic beats, first-degree atrioventricular block, right bundle-branch block, left and right ventricular hypertrophy, and left atrial enlargement.

It was thought that aortic dissection, or rupture of an aortic valve cusp or sinus of Valsalva, might have occurred.

Progress

The patient remained mentally dull and extremely ill. Cardiac failure persisted and there was little response to digitalis, a salt-free diet, mersalyl, aminophylline, and potassium chloride. A high fluid-intake was allowed because of excessive sweating and thirst.

Dullness developed at the left base, and antibiotics were started on the presumption that left lower-lobe pneumonia might be developing. The patient continued to deteriorate and developed severe electrolyte disruption, with dilution hyponatraemia and uraemia. The serum bicarbonate was 21, sodium 113, potassium 5.9, chloride 82 mEq/l., and the blood urea was 200 mg./100 ml. (Table I). Potassium chloride was discontinued. No improvement resulted from increasing the salt intake, and he became refractory to diuretics and to acupuncture of the legs. Spironolactone was not given in view of the very low serum-sodium concentration. Surgical treatment was considered contraindicated in view of the widespread dilatation of the aorta, the severe aortic incompetence, and the intractable heart failure. He deteriorated steadily and died on January 21, 1960, being then aged 26.

Clinical Diagnosis

(1) Marfan's syndrome.

(2) Medial necrosis of the aorta, leading to aortic dilatation, gross aortic incompetence, and congestive heart failure.

Post-mortem Findings

Dr. P. DAWSON: The post-mortem examination was performed by Dr. R. Duckworth seven hours after death.

The body was that of a young man 6 ft. 4 in. (1.9 m.) tall, weighing 11 st. 7 lb. (73 kg.). There was marked elongation of the fingers. The patellar ligaments were abnormally long. There was dorsal kyphoscoliosis, valgus deformities of the toes, and gross pitting oedema of the legs. The eyes were normal.

Cardiovascular system.—There were old, fibrous, pericardial adhesions over the anterior surface of the right ventricle. The *heart* was enormous (Fig. 5), weighing 985 g. (upper limit of normal 399 g. for his height). There was dilatation and hypertrophy of both ventricles, but this was more marked on the left. The wall of the left ventricle measured 22 mm. in thickness (upper limit of normal 15 mm.), and that of the right 8 mm. (upper limit of normal 4 mm.). Microscopically the myocardium showed hypertrophy of the fibres and some vacuolar degeneration. The *tricuspid*, *pulmonary*, and *mitral valves* were all incompetent, with a moderate degree of dilatation of their rings. Their cusps, however, appeared healthy. The *aortic ring* was dilated and the *valve* was grossly incompetent; it measured 130 mm. in circumference (upper limit of normal 80 mm.); there was fenestration of the free borders of the cusps but no separation of the commissures. Microscopically the valve showed a little fibro-elastic thickening of the cusps and absence of elastic tissue from the aortic ring. There was a saccular dilatation of the *ascending aorta* to form an aneurysm, 10 cm.

TABLE I.—*Irreversible Congestive Heart Failure Due to Aortic Incompetence*

Date:	8/1/60	11/1/60	12/1/60	14/1/60	16/1/60	18/1/60	19/1/60	20/1/60
Serum electrolytes (mEq/l.):								
Na	130	113	123	113	110	<110	110	<110
Cl	88	94	91	82	82	80	81	83
HCO_3	22	—	18	21	22	22	21	21
K	4·7	6·8	6·1	5·9	5·3	4·5	4·9	5·5
Urea (mg./100 ml.)	86	—	165	200	190	170	180	200
B.P. (mm. Hg)	130/50	130/50	130/50	130/50	140/40	140/40	120/20	130/30
Weight (kg.)	78·18	—	—	81·76	84·41	77·11	—	—
Fluid intake (ml./24 hr.)	1,670	3,610	3,500	2,440	2,600	1,530	2,545	—
Fluid output (ml./24 hr.)	2,300	460	1,000	1,600	1,670+525*	1,150+2,600*	?	—
Treatment for heart failure	Salt-free diet. Mersalyl. Potassium chloride. Digitalis	— Mersalyl. Sodium chloride. Digitalis	Digitalis	Mersalyl. Sodium-chloride. Aminophylline. Digitalis	Chlorothiazide. Acupuncture	Digitalis. Sodium chloride. Acupuncture	Digitalis	Digitalis

Sodium output <1 mEq/day; chloride output 4–19 mEq/day. * Fluid loss from acupuncture of legs.

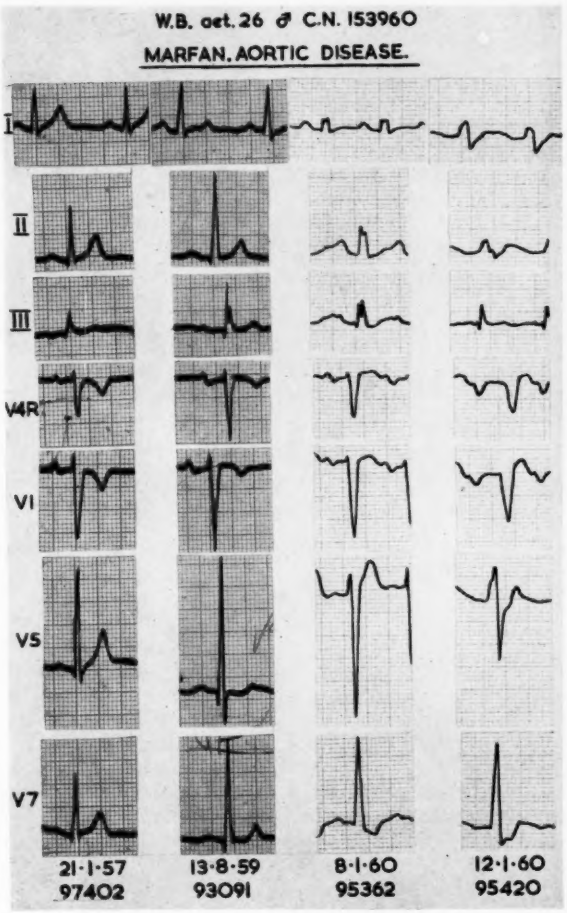

FIG. 1

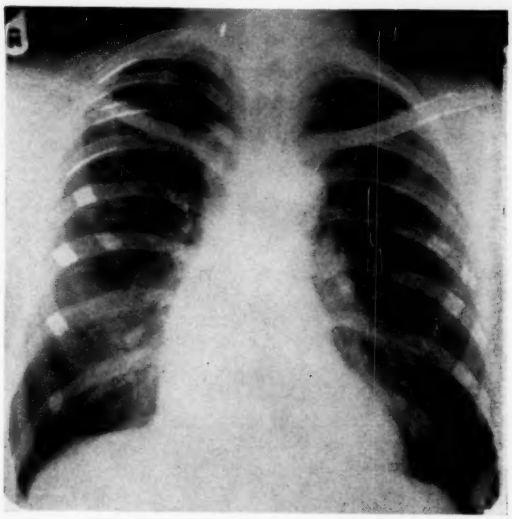

FIG. 2

FIG. 3

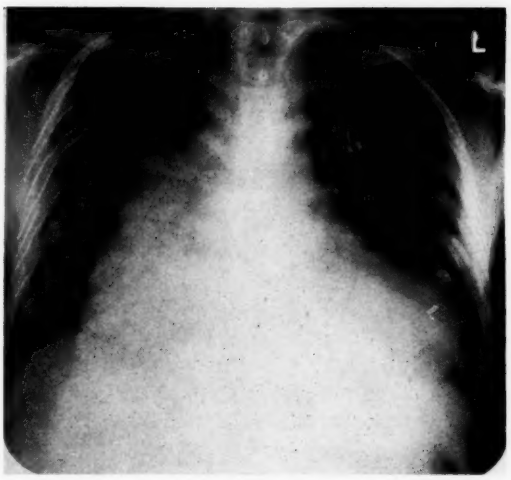

FIG. 4

FIG. 1.—Serial cardiograms showing progressive left ventricular hypertrophy. The records of January 12, 1961, show the development of right bundle-branch block. There is also left atrial enlargement and slight prolongation of the PR interval. The deep S waves in V_5 are referable to right ventricular enlargement.

FIG. 2.—Six-foot postero-anterior radiograph of the chest showing enlargement of the left ventricle and aorta.

FIG. 3.—Six-foot postero-anterior radiograph of chest showing further cardiac enlargement.

FIG. 4.—Portable radiograph of chest showing gross cardiac enlargement and great diffuse aortic dilatation. There is some collapse of the lower lobe of the left lung.

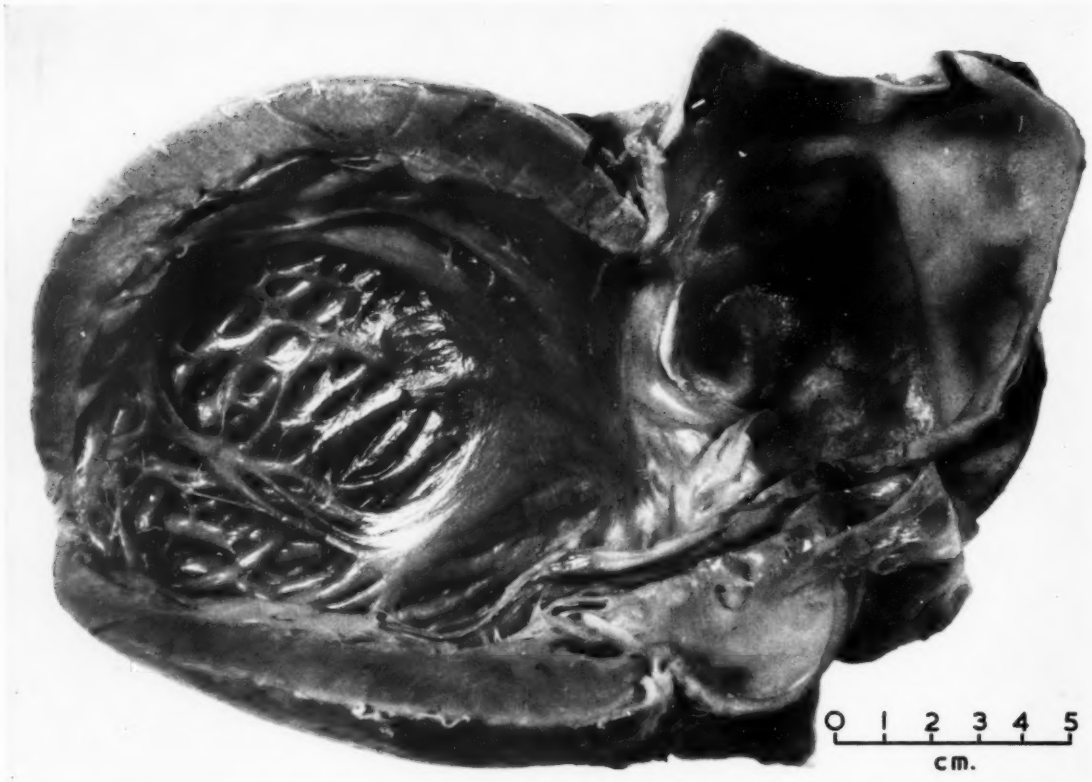

FIG. 5.—Heart showing left ventricle, aortic valve, and aorta. The ventricle is dilated and hypertrophied. The aortic ring is dilated, but there is no separation of the cusps at the commissures. There is aneurysmal dilatation of the ascending aorta.

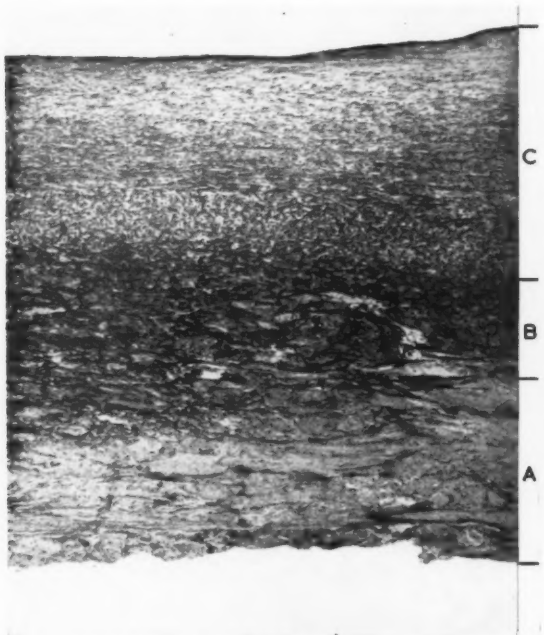

FIG. 6.—Wall of dilated part of aorta of present case. A, adventitia; B, media reduced to a thin layer showing recently interrupted elastic; C, intima showing striking compensatory fibrous thickening. (Elastic-van Gieson stain. ×55.)

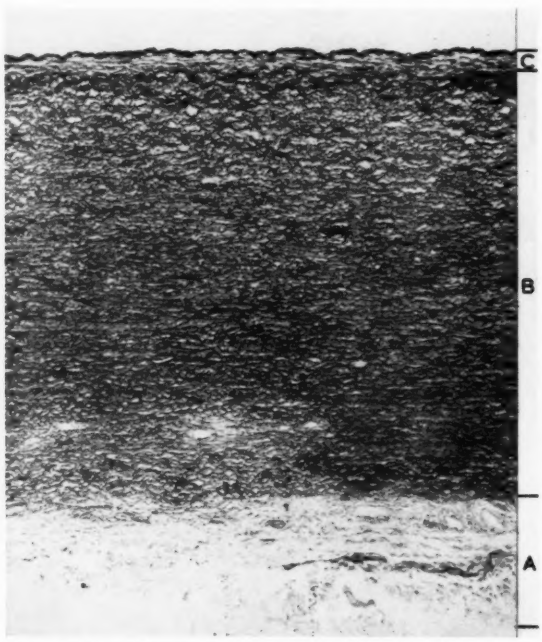

FIG. 7.—Normal aorta from a man of 26 for comparison with Fig. 6. A, adventitia, B, media, and C, intima. (Elastic-van Gieson stain. ×55.)

long and 17 cm. in circumference. Beyond this the aorta was normal (measuring 5.5 cm. in circumference). The aneurysmal dilatation involved the sinuses of Valsalva so that the mouths of the coronary arteries were situated 1 cm. above the free borders of the cusps of the aortic valve. Microscopically the wall of the aorta was thicker than normal (Figs. 6 and 7). The endothelium was intact. There was thickening of the intima by connective tissue containing newly formed, fine, elastic fibres. The media was thinner than normal. It showed a marked reduction in the amount of elastic tissue present, with fragmentation of the individual fibres. The intervening smooth-muscle fibres were disorganized and in places appeared to form large irregular bundles. There was an apparent increase in the number of vasa vasorum, which were dilated. Present chiefly in the media, but also in the intima, were large pools of connective-tissue mucin. The adventitia appeared normal. There was no cellular infiltration of the aorta. At one point in the aneurysm was a tear in the intima 1 cm. long. Sections showed this to have extended through almost to the external elastic lamina. The wall of the aneurysm showed changes similar to those already described. The absence of any cellular response or evidence of repair suggested that the tear was recent. Sections taken from the arch and abdominal part of the aorta appeared normal. The *pulmonary artery* was not dilated and microscopically appeared normal.

The *lungs* were overweight and oedematous. Sections showed a patchy oedema with, in a few areas, aggregates of polymorphs both in the alveoli and bronchi, indicating an incipient bronchopneumonia. Haemosiderin-containing macrophages were prominent in the alveoli. At the apex of the right lung was a small fibrous scar (1.5 cm. in diameter), and section of the mediastinal lymph nodes showed old inactive caseous foci; tubercle bacilli were not found.

The *liver* weighed 1,375 g. (normal 1,400–1,600 g.). Its cut surface showed a nutmeg pattern. Sections showed centrilobular venous congestion with a moderate degree of liver-cell destruction in these areas. This was probably the cause of the high transaminase levels.

The *kidneys* were enlarged, weighing 250 g. each (normal 127–175 g.). Microscopically the only abnormality present was extreme congestion.

Sections from the *patellar ligament* showed no detectable differences when compared with a control. No other abnormalities were found in the *alimentary, urogenital, reticulo-endothelial, endocrine* or *central nervous systems.*

Pathologist's Diagnosis

(1) Marfan's syndrome.

(2) Aneurysm of the ascending aorta with aortic regurgitation.

(3) Congestive cardiac failure.

(4) Old, inactive, pulmonary tuberculosis.

Discussion

Dr. GOODWIN: I think we might take up the discussion on two main points; the vascular and other lesions associated with Marfan's syndrome; and the rapidly downhill course of patients with severe aortic incompetence leading to intractable congestive heart failure.

25 Cases of Marfan's Syndrome

It may be of interest to analyse the last 25 patients with Marfan's syndrome who passed through this hospital (Table II). Of these 25 patients who either were diagnosed as having Marfan's syndrome, or had arachnodactyly, about one-quarter had a suggestive family history, either a sibling, or a parent who had long fingers or was particularly tall. In seven patients there were renal abnormalities.[1] There were several with cardiac lesions, and one with coarctation of the aorta, one with a ruptured aorta, and one with probably an aortic aneurysm, though this was never quite certain as the patient didn't die. There were two patients with a hemivertebra, three with kyphoscoliosis, two with funnel chest, one patient with dislocated lenses, and two with pulmonary lesions which perhaps had no relation at all to Marfan's syndrome.

TABLE II.—*Associated Lesions in 25 Patients Diagnosed at Hammersmith Hospital as Having Marfan's Syndrome or Arachnodactyly*

Nature of Lesion	No. Patients Affected	Further Details of Lesions
Renal lesions ..	7	Small kidneys ,, left kidney Congenital ureteric stricture and pyelonephritis Mobile right kidney Bifid ureter and pyelonephritis Pyelonephritis Chronic glomerulonephritis
Cardiac lesions ..	7	Atrial septal defect (3 patients) Ventricular septal defect Valve lesions (2 patients) Transposition of the great vessels
Aortic	3	Coarctation of the aorta Rupture of the aorta ? Aortic aneurysm
Kyphoscoliosis .. *Pectus excavatum*	3 2	Hemivertebra (2 patients)
Lens abnormality	1	
Pulmonary lesions	2	Bronchiectasis Aspiration pneumonia

It is perhaps of interest that our patient to-day did have a spontaneous pneumothorax. This has been reported before, and I should like to know subsequently from the experts what is the real association of pulmonary lesions with Marfan's syndrome. The trouble in Marfan's syndrome is, I think, that the connective tissue—the mesenchyme—is involved, and this may affect every system. The condition is inherited, but the exact form of inheritance is uncertain,[2] but family studies of patients with the full syndrome suggest the inheritance of a single irregular dominant autosomal gene.[3] The study by McKusick in 1955[4] is extensive; I think he studied 50 families. The interesting thing is that you can apparently inherit the cardiovascular manifestations, and this sort of aorta, without inheriting the skeletal manifestations, so it is something to be thought of in a patient who has aortic incompetence, or a dilated aorta, without obvious cause. The other interesting thing is that you can produce very much the same lesions in rats by giving them sweet-pea cereal to eat. There has also been a suggestion from Finland[5,6] that these experimentally produced medial lesions in the rat can be diminished by giving cortisone.

Electrolytes in Congestive Failure

Finally, before throwing the discussion wide open, I would like to provoke a little argument by discussing

the possible mechanisms of electrolyte disturbance in congestive heart failure (see Chart). The initial suggestion is that in heart failure the output of the left ventricle and the renal blood-flow fall, while the glomerular filtration-rate remains unchanged. The

SOME POSTULATES IN CONGESTIVE HEART FAILURE

1. Renal blood flow ↓. Glomerular filtration rate unchanged.
   → Filtration Fraction ↑; colloid osmotic pressure ↑.
   → Re-absorption Na and Cl from proximal tubule.
   → Glomerular filtration rate ↓.
   Hyperaldosteronism → Re-absorption Na and Cl from distal tubule ↑.
   (Vander et al., 1958).

2. $NaCl + H_2O$ retained → extracellular space expanded.
   → Na concentration ↓. Na → into cells.
   K ← out of cells.
   Na in excess of Cl passes out of extracellular compartment
   → acidaemia.

3. Untreated heart failure:
   Na and H_2O retained in excess.
   Total body Na ↑
   Serum Na concentration ↓
   Serum K normal or low.
   Tendency to acidaemia.

filtration fraction thus goes up, and this causes an increase in colloid osmotic-pressure, resulting in reabsorption of sodium and chloride from the proximal renal tubule. Subsequently the glomerular filtration-rate falls, and increased secretion of aldosterone increases reabsorption of sodium and chloride from the distal tubule.[7] This, of course, results in retention of an equivalent amount of water, which expands the extracellular compartment and dilutes the sodium. I think this is why in this patient, who was in severe congestive heart failure and untreated with diuretics, the serum sodium was in fact 130 mEq/l. instead of 140–150 mEq/l. Sodium tends to pass into the cells, and potassium tends to pass out. Possibly this is why his serum potassium was raised, the potassium not being excreted because of the high blood-urea due to the poor renal blood-flow. Thus in untreated congestive heart failure we would expect to get an increase in total body sodium (and this in fact has been proved), but a reduction in the concentration (the serum potassium being normal or low, or in exceptional cases raised), and a slight acidosis. The effect of the conventional mercurial diuretics is, of course, to produce mainly a chloride diuresis which takes out sodium and water also, and tends to reduce the oedema at the expense of producing a slight alkalosis.

AORTIC MEDIAL NECROSIS

Perhaps I might now ask Professor Harrison to comment on the medial necrosis and to say whether he thinks that it is a reasonable clinical diagnosis to make.

Professor C. V. HARRISON: Oh, yes. Just to be provocative I am going to say that this is *not* medial necrosis. There is a problem of nomenclature here: the disease described by Erdheim,[8] which causes dissecting aneurysms in middle-aged people, is, in my opinion, a totally different aortic lesion from this condition, and if you are going to use the term "medial necrosis," or "cystic medial necrosis" for the one, you shouldn't use it for the other. If you will allow an over-simplification, I think it is fair to say that the medial necrosis that normally gives rise to dissecting aneurysms is characterized by necrosis of the unstriped muscle of the aortic wall accompanied by an increase in the stainable mucoid connective tissue. In other words, you get this mucoid staining and you do *not* get damage or destruction to the elastic tissue. You then get a split along which blood passes, but again it separates two intact pieces of elastic tissue. On the other hand, in Marfan's syndrome, the one constant lesion is absence, break-up, or destruction of elastic tissue—something that is not present in the other disease. There is with this also destruction of muscle and increase in mucoid connective tissue, but whether they are essential, or whether they are merely the mechanical results of disruption of the wall, I just don't know.

Dr. GOODWIN: Thank you very much. Clinically, of course, they are different because you have on the one hand the elderly, hypertensive patient who has a classical dissecting aneurysm, and on the other the syndrome described by Marfan, in which dilatation of the aorta, with or without dissection, may occur. But what I have never understood is why you get these neat little transverse slits in the intima, for all the world as if somebody had taken a scalpel to it. I don't see really what starts it off.

Professor HARRISON: I have no idea.

WHAT IS MARFAN'S SYNDROME?

Dr. J. P. SHILLINGFORD: I wonder if I may ask for a definition of Marfan's syndrome. We have seen everything to-day from long fingers to chronic nephritis included in the syndrome.

Dr. GOODWIN: I think that is correct. The trouble is that people have added things on since. The best recent work on this is that of McKusick,[4 9] and of Sinclair and his colleagues.[2] I personally find it extremely difficult to define the borderline between the patient who is just rather tall and thin and someone who has the genuine Marfan syndrome, and this may be, of course, of great importance. Various suggestions have been made by Dr. Booth on the length of the patellar ligament, but I am ashamed to say that I have forgotten what his measurements were.

Dr. C. L. COPE: Going back to the question of what the syndrome is, if you look up Marfan's original paper,[10] as I have done, you will find that most of this was unknown to Marfan. He doesn't mention the heart. What he mentions are the thin fingers (the arachnodactyly), the high, arched palate, and, I think, the long patellar tendons. So far as I remember, that is all. There was no mention of any visceral change.

Professor HARRISON: He demonstrated one small girl to a Parisian medical society, and he devoted his description, if my memory is right, exclusively to anatomical deformities, didn't he?

Dr. GOODWIN: Yes, I think so.

EPONYMS AND SYNDROMES

Dr. P. HUGH-JONES: Could I make some comments about the use of an eponym like "Marfan's syndrome"? To argue about what Marfan himself described is really just saying what happened at a certain historical point in medicine. That is one aspect. Another is whether certain pathological or clinical features occur together frequently enough for one to justifiably recognize a syndrome or a disease-state. I am still doubtful, in this particular case, about the latter aspect, which I regard as the more important. For instance, Dr. Goodwin said that you sometimes see examples of Marfan's syndrome in which you get the cardiac and the visceral changes, without any of the skeletal ones and without the high, arched palate. I have a patient in my ward at the moment with what I regard as primary emphysema. He also has a definite cardiac murmur, which I think is an aortic murmur, and I seriously wonder whether he has this condition of Marfan's syndrome or not. But I just don't know how correctly to make that diagnosis, and I should be extremely interested to learn the diagnostic criteria of Marfan's syndrome.

Dr. GOODWIN: I think you have put your finger on it. Really, when one thinks of it, it is rather ridiculous to describe a patient as having "Marfan's syndrome" when he has none of the characteristics described by Marfan. But how do you find a definition? McKusick's isn't bad, I think: "an inherited disorder of connective tissue." How you prove whether somebody who has not the skeletal manifestations but, for instance, has a dilated aorta has (let's call it) "McKusick's syndrome," I don't know.

Dr. J. G. SCADDING: But surely, if we think this thing has a genetic basis, we should first, before we discuss the definition, consider what is known of the genetics. If we agree that it is a genetically determined syndrome, then obviously we must look into family histories at much greater length before we put cases into this category.

Dr. DAWSON: McKusick says that before he makes a diagnosis of Marfan's syndrome he likes to have a family history, which he says occurs in 85% of the cases, and for a greater or lesser degree of ectopia lentis to be present. These, with the visceral lesions, should be present in association with the peculiar skeletal deformities which seem in fact to present in most people.

PATHOLOGICAL RECOGNITION

Dr. COPE: May I ask Professor Harrison if he could accept, not Marfan's syndrome, but this inherited disorder of connective tissue as an entity?

Professor HARRISON: No, definitely not. It fits gargoylism just as well.

Dr. COPE: Given any biopsy from anywhere, would you be able to spot a pathological entity?

Professor HARRISON: No. Dr. Dawson showed this very nicely pathologically to-day. At one point in this patient's aorta the elastic tissue was disrupted to bits; three inches further on the elastic tissue was normal to all our staining methods, crude if you like.

Dr. COPE: No, I mean assuming you had the pathological bit.

Professor HARRISON: Oh, a torn aorta? Certainly.

Dr. COPE: Would you recognize it as characteristic of the entity we call "Marfan's syndrome"?

Dr. GOODWIN: And the kidney too, for instance?

Professor HARRISON: No, not kidney.

Dr. COPE: That is not included in this syndrome by many people. You see, all kinds of disorders in various organs have been alleged to have a common pathological basis.

Professor HARRISON: The only thing that I honestly think I could recognize morphologically is the aortic damage, plus of course the skeletal changes.

Dr. COPE: I must say I cannot accept this syndrome as a clear entity at all, there are far too many variants. It isn't a syndrome in any sense of the word, and I can't help wondering sometimes whether the long fingers and the high, arched palate may not, in some instances, be developmental results of some other disorder. Sometimes you get congenital heart disorders—we have had them at this hospital—where there is elongation of the fingers and so on, possibly due to growth disturbance.

BERNHEIM'S SYNDROME

Dr. J. P. D. MOUNSEY: Dr. Goodwin pointed out that three years before this patient's death, although he had a normal jugular venous pressure, he had a large "a" wave and also there was a sternal lift due to "right ventricular hypertrophy." At this time there was no history of the patient having ever been in congestive heart failure and he had only a left-sided heart lesion. Does Dr. Goodwin think that these signs were due to a Bernheim effect at that time from his greatly hypertrophied left ventricle?

Dr. GOODWIN: Well, if Marfan's syndrome is difficult to understand, Bernheim's syndrome is even worse! My definition of Bernheim's syndrome—I wonder if it is the same as Dr. Mounsey's?—is a situation in which a purely left-sided lesion is followed by right ventricular congestive heart failure without preceding left ventricular failure and dyspnoea. It is said to be due to the enormously hypertrophied septum bulging across and partially obstructing the right ventricle.

Dr. MOUNSEY: I think that is more or less what most people understand by Bernheim's syndrome, although I am not quite certain how the effect is produced, whether it is in fact purely bulging of the septum into the right ventricle and making it small and producing obstruction. We have wondered, at the London Hospital, whether the hypertrophied septum, besides decreasing the diastolic volume of the right ventricular cavity, acts also as a splint to the right ventricle. It could thus prevent filling at normal diastolic pressures because of the increased stiffness due to the hypertrophy, but still permit this to take place in response to the raised filling pressure produced by increased force of atrial contraction. Later, as the condition progressed, right heart failure would supervene.

Dr. GOODWIN: Yes, I had always assumed that what it did in fact was to produce a sort of functional tricuspid stenosis, and in our case this would perhaps fit in with the signs recorded at that time. It is certainly a possibility. I suppose that the alternative explanation in this patient is that the apparent right ventricular enlargement and the "a" wave were the result of pulmonary hypertension which was occurring secondarily to occult left ventricular failure. But we have the pathological evidence that the septum did in fact bulge into the right ventricle. The tricuspid valve subsequently became incompetent, but I don't think that would rule out the suggestion.

"WATER-HAMMER" PULSE

Professor HARRISON: May I risk showing great cardiological ignorance and ask how you get a "water-hammer" pulse with a diastolic pressure of 90? I thought you had to have a high systolic and a very low diastolic, but I am obviously very out of date.

Dr. GOODWIN: I think this is just clinical acumen! It is possible to detect the collapsing character of the pulse before the pulse pressure has widened.

E.C.G. CHANGES

Dr. COPE: On this question of the state of the myocardium, the final E.C.G. changes, so-called atrioventricular block and left bundle-branch block, were they merely due to the hypertrophy, or do they imply something wrong with the myocardium?

Dr. GOODWIN: I should think, looking back now, that they were probably all the result of gross hypertrophy and dilatation of both ventricles, but the potassium may have had some effect; it went up to 5.9 mEq/l. at that stage.

Dr. COPE: But the change in the tracing is not due to hyperkalaemia. Was there any real block?

Dr. GOODWIN: There was atrioventricular block; the PR interval was about 0.22 (see Fig. 1).

CAUSE OF GROSS CARDIAC HYPERTROPHY

Dr. GOODWIN: I thought, Professor Harrison, that severe aortic incompetence produced some of the biggest hearts ever seen, and that this enormous dilated and hypertrophied heart is, in fact, what you would expect in somebody who had died of aortic incompetence.

Professor HARRISON: Yes, I agree. That, and an aortic stenosis with regurgitation.

Dr. GOODWIN: Yes. There wasn't much ischaemia, the coronary arteries were great big ones.

Professor HARRISON: Yes.

Dr. GOODWIN: So the hypertrophy was due partly to the added load produced by the incompetence and partly perhaps by the heart failure itself. Is that reasonable? Perhaps he hadn't been in congestive heart failure for long enough.

Dr. SHILLINGFORD: Does heart failure *per se* produce hypertrophy?

Dr. GOODWIN: I think so.

HYPONATRAEMIA IN THE DYING

Dr. COPE: Would it be fair to ask Dr. Milne about the very low sodium and what is described here as "electrolyte disruption"? There was an extreme degree of hyponatraemia. It was below 110 mEq/litre in this man.

Dr. GOODWIN: That is why I drew attention to it, because I think this is what you see to some extent in any dying person, particularly in somebody with irreversible congestive heart failure.

Dr. COPE: They don't usually go below 110; at least I don't think I have seen that.

Dr. GOODWIN: No, I think that is about the lowest.

Dr. D. MILNE: I think that Dr. Goodwin would agree that he has over-simplified congestive heart failure. He really expounded only the forward theory; everything is related here to a reduced renal blood-flow and retention of salt and water by the kidney. I don't think this is the entire story; I think the real truth is a compromise between the forward and the high-venous-pressure theories. It is very difficult to make a normal person oedematous however much you push salt and aldosterone, whereas, of course, in a case of heart failure with a high venous pressure you can easily do so. Similarly, in a case of nephrotic syndrome with a low serum albumin you can easily do so. I think other things besides the kidney come into it.

With regard to the hyponatraemia, I rather thought from Dr. Goodwin's chart that he thought this was due to retention of salt and water by the kidney. I think again that is an over-simplification. Presumably if you retain salt and water, you wouldn't get any hyponatraemia; the only thing you could retain to cause hyponatraemia is water. But I think in actual fact this is merely a sign of severe ill-health. The reason I say that is that one of the best statistical works on the subject was by Danowski, of Pittsburg, who took all the patients admitted to the General Hospital with a serum sodium below 130 at first admission and followed them up: 50% of them were dead within a year. That is my definition of ill-health!

WHAT IS THE MECHANISM?

Now the actual cause of the hyponatraemia: I think that this is one of the mysteries of medicine. It reflects, of course, a reduced osmolarity of body fluids, and presumably the intracellular fluid has just as low an osmotic pressure as the extracellular fluid. I would prefer to think, as I think most people do, that the initiating stage occurs in the cells—that there is something in the metabolism of the cells causing reduced osmotic pressure of the intracellular water which is then reflected in the lower osmolarity of the extracellular fluid and the plasma which we measure most conveniently by estimating the plasma sodium. So that the place to look for the primary cause, I think, is in cellular metabolism. Hyponatraemia occurs, I agree, most commonly in congestive heart failure, but it also occurs in cases of severe cirrhosis of the liver, nephrotic syndrome, renal failure, and, in the old days before anti-tuberculous therapy, very prominently in untreated pulmonary tuberculosis and in tuberculous meningitis. So you see it is a very generalized thing, and to me its only importance in clinical medicine is as a sign of very bad prognosis. But I think the discovery of its cause would be a very great advance in, one might call it, the pathological physiology of the body.

Dr. GOODWIN: I quite agree that the Chart (see p. 886) is grossly over-simplified, and that the increased central venous pressure and renal venous congestion have a great deal to do with the matter, but I am not sure that the forward theory isn't the most important. With regard to the retention of water, I wonder if the normal response of volume receptors to changes in the extracellular volume perhaps doesn't go wrong, so that excess of antidiuretic hormone is secreted, resulting in more water being retained than normally would be the case. I don't know whether that is true, perhaps Dr. Milne could tell me.

Dr. MILNE: No, I am not commenting. I prefer to think the thing starts intracellularly, but you are relating it to the extracellular space if you say that.

SUDDEN PROGRESSION

A VISITOR: Why does this young man suddenly develop this lesion at 23 and rapidly progress over the next three years?

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Dr. COPE: But you don't get that in congenital aneurysm.

Professor HARRISON: There is no evidence that the aneurysms themselves are congenital. The congenital aspect, surely, is the lack of elastic at a junction.

We are grateful to Dr. J. P. Shillingford and Dr. B. E. Heard for assistance in preparing this report, and to Mr. W. Brackenbury for the photographs.

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SCHIZOPHRENIC SYNDROME IN CHILDHOOD

PROGRESS REPORT (APRIL, 1961) OF A WORKING PARTY*

During 1958, with the help of the Mental Health Research Fund, a re-examination was made at the Hospital for Sick Children, Great Ormond Street, of the long-term records of a group of severely disturbed children diagnosed as psychotic. A number of these children had also been seen by other workers, and in the course of time had been variously classified as "autistic," "schizophrenic," "atypical," sometimes with an additional or alternative label "brain-damaged," "epileptic," "mentally defective," etc.

Diagnostic classification of schizophreniform illnesses in childhood rests ultimately upon a clear understanding of the causes. Present knowledge, however, is inadequate for an attempt to be made to draw up a classificatory scheme on such a basis. Kallman and Roth (1956) consider that in at least some pre-adolescent schizophrenics there may be an early effect of the same genotype assumed to be responsible for the basic symptoms of adult schizophrenia. The varied terminology—autistic (Kanner, 1943), symbiotic (Mahler, 1952), schizophrenic (Bender, 1958), and others—makes it particularly difficult to know the extent of the clinical field covered by these terms. Bender's definition is perhaps the widest and most all-embracing, and she perhaps more than others sees this as a not infrequent occurrence in childhood. A brief bibliography is appended; a comprehensive one is given in the section on Childhood Schizophrenia and Allied Conditions in Bellak's *Schizophrenia*, published in 1958.

In this country some clinicians concerned with the diagnosis of such children hold the view that the condition is less rare than had been thought, and that more such children are being referred for psychiatric assessment. Similar cases are by no means unknown in hospitals for the mentally subnormal; but we could discover no generally applicable criteria which led to referral to a child-guidance clinic or hospital department of psychological medicine on the one hand, or, on the other, to ascertainment as severely subnormal and referral to M.D. hospital or training centre.

In this situation it was found impossible to gain any idea of the extent of the problem. A few child-guidance clinics were approached; but, hardly surprisingly, it was found that the ratio of such children to the rest of their referrals varied considerably from clinic to clinic. The criteria used by the referring doctor, or the particular psychiatric viewpoint adopted, may be two of many reasons.

One result of these earlier studies was a meeting in May, 1960 (by invitation of the research committee and the Board of Governors of the Hospital for Sick Children), of a group of 13 interested workers drawn from, broadly, the fields of child psychiatry, paediatrics, genetics, psychology, psychiatric social work, and mental deficiency. Obviously many other participants could have been invited, but it was felt to be of overriding importance to keep the group small enough to work intimately on a basis of discussion.

The agenda for this meeting proposed: (i) to discuss the present confused terminology and perhaps reach some clearer definition of the different clinical syndromes and agree on the terminology; (ii) to discuss the possibility of agreeing on a simple form which could then be circulated to clinicians who are likely to meet with these cases; (iii) to discuss how best to use this material.

In all, six meetings (mostly of two sessions' duration) were held between May, 1960, and February, 1961.

It was agreed that the first necessity was to clarify and describe what we meant by the term "psychosis in childhood," and in this communication we offer the results of our attempt to do this.

Some members of the working party preferred the more general term "psychosis in childhood," and others the more specific "childhood schizophrenia." After lengthy discussion it was agreed that the term "schizophrenic syndrome in childhood" should be used. Nine diagnostic "points" were eventually generally accepted. We at first attempted to confine ourselves to a description of clinical signs and of behaviour which could be directly observed in interview. This proved to be impossible if we were to convey what we all felt to be the heart of the matter—namely, the presence of an impaired capacity for human relationships, which observation alone, however acute, cannot discover. Some aspects of these "points" therefore inevitably

*Members of the working party were as follows: Dr. Kenneth Cameron, Children's Department, Maudsley Hospital. Dr. Valerie Cowie, Medical Research Council Psychiatric Genetics Research Unit. Miss Sylvia Ini, P.S.W., formerly in Childhood Psychosis research project at H.S.C., Great Ormond Street. Dr. Ronald Mac Keith, Paediatrician, Guy's Hospital. Dr. Guy Michell, Tavistock Clinic, Department for Children and Parents. Dr. Gerald O'Gorman, Borocourt Hospital and Smith's Hospital, Henley-on-Thames. Frank Orford, Esq., Clinical Psychologist, formerly Fountain Hospital. Dr. W. J. B. Rogers, Department of Child Psychiatry, Crichton Royal Hospital, Dumfries. Dr. A. Shapiro, Harperbury Hospital. Dr. F. Stone, Department of Child Psychiatry, Royal Hospital for Sick Children, Glasgow. Dr. George Stroh, High Wick Hospital. Dr. Simon Yudkin, Paediatrician, Whittington Hospital. Chairman: Dr. Mildred Creak, Physician in Psychological Medicine, Hospital for Sick Children, Great Ormond Street, London W.C.1.

embody interpretations of behaviour, while others are more likely to be obtainable only from the child's history.

These nine points were not intended as absolute criteria in the sense that all, or any particular one, must be present; nor were they designed for use as a rating scale. While no attempt was made to arrange them in order of importance, it was found when they were "tried out" by different members of the group (on four samples totalling 68 children who had already been diagnosed as psychotic or schizophrenic) that the first point was present in every case except one. Many of us regarded the ninth point also as a *sine qua non*.

The Nine Points

1. Gross and sustained *impairment of emotional relationships* with people. This includes the more usual aloofness and the empty clinging (so-called symbiosis): also abnormal behaviour towards other people as persons, such as using them, or parts of them, impersonally. Difficulty in mixing and playing with other children is often outstanding and long-lasting.

2. *Apparent unawareness of his own personal identity* to a degree inappropriate to his age. This may be seen in abnormal behaviour towards himself, such as posturing or exploration and scrutiny of parts of his body. Repeated self-directed aggression, sometimes resulting in actual damage, may be another aspect of his lack of integration (see also point 5), as also the confusion of personal pronouns (see point 7).

3. *Pathological preoccupation with particular objects* or certain characteristics of them, without regard to their accepted functions.

4. *Sustained resistance to change in the environment* and a striving to maintain or restore sameness. In some instances behaviour appears to aim at producing a state of perceptual monotony.

5. *Abnormal perceptual experience* (in the absence of discernible organic abnormality) is implied by excessive, diminished, or unpredictable response to sensory stimuli —for example, visual and auditory avoidance (see also points 2 and 4), insensitivity to pain and temperature.

6. Acute, excessive, and seemingly illogical *anxiety* is a frequent phenomenon. This tends to be precipitated by change, whether in material environment or in routine, as well as by temporary interruption of a symbiotic attachment to persons or things (compare points 3 and 4, and also 1 and 2).

(Apparently commonplace phenomena or objects seem to become invested with terrifying qualities. On the other hand, an appropriate sense of fear in the face of real danger may be lacking.)

7. *Speech* may have been lost or never acquired, or may have failed to develop beyond a level appropriate to an earlier stage. There may be confusion of personal pronouns (see point 2), echolalia, or other mannerisms of use and diction. Though words or phrases may be uttered, they may convey no sense of ordinary communication.

8. *Distortion in motility patterns*—for example, (*a*) excess as in hyperkinesis, (*b*) immobility as in katatonia, (*c*) bizarre postures, or ritualistic mannerisms, such as rocking and spinning (themselves or objects).

9. *A background of serious retardation* in which islets of normal, near normal, or exceptional intellectual function or skill may appear.

We do not doubt that further improvements could be made, and it is with this aim in view that we offer our contribution at this stage for comment and criticism—based preferably on usage.

A general agreement among psychiatrists on such diagnostic features would clear the way towards a common understanding and recognition of the phenomenological composition of the syndrome. A more immediate hope is that this attempt to extract from the observed data those signs of diagnostic value which are most frequently seen may lead to early recognition by those who are in a position to observe deviations in the development of infants and young children.

Offers of collaboration (forms would be supplied) or other communications arising from this will be welcomed by the chairman of the group.

This memorandum is published by permission of the Editor of the *Cerebral Palsy Bulletin*, in the current issue of which it is also appearing.

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SEVENTH INTERNATIONAL CONGRESS OF NEUROLOGY

[FROM A SPECIAL CORRESPONDENT]

When the Sixth International Congress of Neurology met in Brussels four years ago, it proved unwieldy because of its magnitude. The subsequent defection of the neurosurgeons gave promise that the Seventh Congress would be smaller, intimate, and more successful. Meeting in Rome from September 10 to 17 under the presidency of Professor M. GOZZANO, the Congress threatened at first to defeat its object, for sundry other para-neurological disciplines, attracted perhaps by the felicitous choice of venue, associated themselves with this occasion. Thus, many of the neuropathologists who had just conferred at Munich proceeded to Rome, as did the historians of neurology after their meeting in Varenna. Geneticists, experts on muscle-dystrophy, electromyographers and electro-encephalographers, and members of the International League Against Epilepsy, of the Multiple Sclerosis Society, and of the World Federation of Neurology augmented the numbers and the business activities. There were probably around

1,500 participants besides associate and adjunct members. Despite these large numbers, the Congress adequately maintained its personal appeal.

Main Scientific Topics

The scientific sessions were held in the Palazzo Pio—the superb concert hall on the Vatican side of the river. There were three main topics for discussion. Thus, on September 11 under the chairmanship of HOUSTON MERRITT (New York) the subject of the neurological aspects of certain metabolic disorders was opened by G. A. Jervis (Thiells), G. Pampiglione (London), C. Rimington (London), K. Akert *et al.* (Madison), S. Berman (Capetown), and R. S. Krooth (Bethesda). On September 12 the second formal session took place presided over by G. BODECHTEL (Munich), and this dealt with the neurological manifestations of cardio-pulmonary disease. Among the principal speakers were A. T. Steegmann (Kansas City), M. Schneider (Cologne), J. H. Quastel (Montreal), and S. S. Kety (Bethesda). The chief debaters were D. Richter, F. Dickens, and W. Sperry. The third main topic, on September 14, under the chairmanship of MACDONALD CRITCHLEY (London), was aphasia. The choice of this subject was largely determined by the fact that 1961 marks not only the centenary of Henry Head but also the 100th anniversary of Broca's original communication. The principal speakers at this symposium were H. Hoff (Vienna), Th. Alajouanine and F. Lhermitte (Paris), Russell Brain (London), and E. Bay (Düsseldorf). During the afternoon there followed papers by Mogens Fog (Copenhagen), G. H. Monrad-Krohn (*in absentia*), G. Flottorp (Oslo), F. Grewel (Amsterdam), and A. Subirana (Barcelona).

"Digest" Sessions and Social Events

On Friday, September 15, the Congress broke up into several simultaneous sessions whereat short papers were abstracted by pre-selected "digest directors." These meetings were held in various class-rooms at the Città Universitaria. Some of these sessions were aligned to the three main themes of the Congress, while others dealt with matters of more general neurological interest. Particular mention should be made of the remarkable and stimulating intervention by Dr. Donald Hunter into a discussion concerning various aspects of "Neurogeography."

As might be expected, the social events were outstanding. Impressive receptions were held at the Diocletian Baths, at the Capitoline Museum, and at the Castle of San Angelo. At the banquet at the Grand Hotel there was a commendable restriction in what is so often a spate of after-dinner speeches. On Saturday morning His Holiness Pope John held a private audience for members of the Congress at the Castello Gondolfo.

Next Congress

It was decided to hold the Eighth International Congress of Neurology (1965) in Vienna. A meeting of the national representatives of the World Federation of Neurology took place on Saturday, September 16. L. VAN BOGAERT (Antwerp) was re-elected president for another term of four years, while HOUSTON MERRITT (New York) and RAYMOND GARCIN (Paris) were elected vice-presidents.

The Universal Medical Esperanto Association, founded in 1908, held its annual general meeting on August 8 during the Universal Esperanto Association's congress in Harrogate. The chair was taken by the President, Professor Hideo Yagi, president of Okayama University, Japan, and dean of the medical faculty there. Members attended from Japan, Yugoslavia, Argentine, France, Italy, Denmark, Germany, and Madagascar, as well as from the United Kingdom. It was reported that 345 doctors were registered as Esperantists and that there were seven Esperanto clubs—in Sofia, Belgrade, Cracow, Moscow, Vilnar, and two other Soviet towns. The U.M.E.A.'s treasurer is Dr. G. Barasi (London).

New Appliances

COMBINED CASUALTY, X-RAY, AND EXAMINATION TROLLEY

Mr. A. M. MURRAY, surgeon in charge, Casualty Department, Royal Infirmary, Glasgow, writes: This trolley, manufactured to my design by Chas. F. Thackray Ltd., Leeds, has several obvious advantages over standard trolleys for patients. The trolley is intended to reduce the handling and lifting of patients to a minimum, and for use as a means of conveyance, an examination couch, and an *x*-ray table. For the last-mentioned purpose the trolley dispenses with the need for a standard couch, with its Potter–Bucky attachment, by employing grid-containing cassettes and ceiling-mounted *x*-ray tubes. Completely detailed and satisfactory films can be produced in this way.

Fig. 1 illustrates the trolley, which may be described briefly as follows:

1. The flat top is a laminated radiolucent plastic covered by a pad of synthetic foam 1½ in. (3.8 cm.) thick.

2. Along two L-shaped rails mounted under the top runs a simple carriage for the cassette-holder; this can be loaded

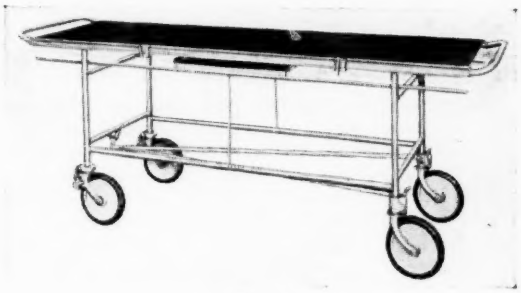

FIG. 1

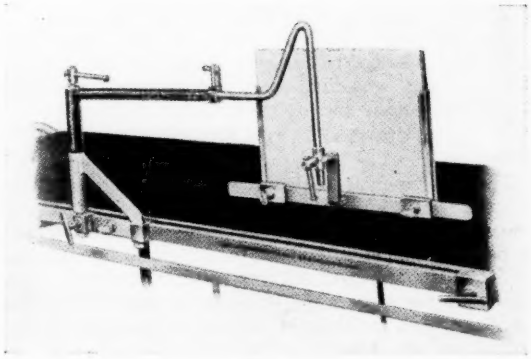

FIG. 2

with any size of cassette from both sides and ends of the trolley. The cassettes can be accurately centred. The undercarriage is normally kept in the *x*-ray room and is slipped into position when required. Normal operating-table side rails are permanently fitted, and these take an adjustable lateral cassette-holder for lateral or oblique views of the spine and hip-joints, and so on, as required, without moving the patient from the supine position (Fig. 2). Similarly, head clamps fitted to the side rails can accurately position the head for skull radiography.

3. The side rails carry standard sliding blocks for drip rods and a very substantial side-arm rest at any desired position on the trolley.

4. Nine-inch (22.5 cm.) "Homa" castors allow of easy manœuvre, and for distance carriage the two castors at one end are fitted with swivel locks operated from either end of the trolley.

5. Oxygen cylinder cages and patients' clothing trays may be incorporated in the underframe.

I wish to thank Dr. J. Z. Walker, director of radiological services at the Glasgow Royal Infirmary, for his helpful advice and extended trials of this trolley in his department.

Nova et Vetera

NEW LIGHT ON HARVEY

Professor Franklin has already done great service to the memory of William Harvey by his new and better translation of *De motu cordis* and of *De circulatione sanguinis*, the two anatomical essays addressed by Harvey in 1649 to Jean Riolan, jun. Now he gives us a new biography of Harvey,* written with the appraisement of a physiologist, a classical scholar, and a medical historian who is well acquainted with all the fresh knowledge that has already come to light concerning Harvey's work and times.

He begins at the beginning of things, first considering the speculations on the blood put forward by Alcmaeon of Crotona, Aristotle, Herophilus of Chalcedon, Praxagoras of Chios, and by Galen, who held that blood passed from the right side of the heart to the left side through minute pores in the interventricular septum. He discusses the claims of the pre-Harveian "circulators," Ibn an-Nafis (*circa* 1210–88), who only adumbrated in some measure the pathway of the pulmonary circulation; Vesalius, who denied the possibility of a passage of blood through the interventricular septum; Servetus, whose discovery of the pulmonary circulation received little attention; Columbus, who copied Servetus; Botallus; Caesalpinus; and Fabricius, who first saw valves in veins. He finds their observations and opinions do not detract in any way from Harvey's independent discovery of the circulation.

The familiar facts of Harvey's life are described. His classical education at the King's School, Canterbury, and at Gonville and Caius College, Cambridge; his medical education at Padua; his return to incorporate M.D. at Cambridge; his marriage, Fellowship, and offices at the College of Physicians; journeys to the Continent with the Duke of Lennox and Lord Arundel; attendance on King Charles I in Scotland and at Oxford during the Civil War; the days of retirement, publication of *De generatione animalium*, and his death.

By concise writing Professor Franklin has packed much information into small compass. Still, even here Harvey's great discovery of the circulation somewhat overshadows his other original work as a public health administrator and adviser to the State, a pioneer in embryology, a forerunner of Wallace and Darwin, the founder of scientific midwifery, a planner of the first pharmacopoeia, an advocate of smoke abatement, an epidemiologist, one who first showed that contagious and infective disease spread through the blood, and

(*Continued at foot of next column*)

(*Continued from preceding column*)

whose prophetic vision extended even to the threshold of bacteriology.

Professor Franklin quotes H. P. Bayon's careful studies of Harvey's work with approval, and suggests that in the history of medical progress the significance of both *De motu cordis* (1628) and *De generatione animalium* is equally great; "a study of both is essential to obtain a clear conception of Harvey's personality." This, however, will not be generally realized until we have a new translation of *De generatione*. May we plead that Professor Franklin will write it?

ARTHUR S. MACNALTY.

**William Harvey: Englishman, 1578–1657.* By Kenneth J. Franklin, D.M., D.Sc., F.R.C.P., F.R.S. (Pp. 151; illustrated. 18s.) London: Macgibbon and Kee. 1961.

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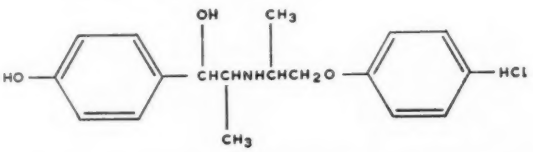

Pharmacology.—Isoxsuprine has been found in experimental work to have a direct dilating action on the muscle coat of the arteries and to a lesser extent of the bronchi. This effect is greater on the arteries supplying muscles than skin, but it does increase the blood flow in the digits, especially of the feet. Its adrenolytic action is weak, and the only effect on the gastrointestinal tract is some decrease of motility. Systemic blood-pressure and the heart rate are not influenced by the doses recommended. In larger doses there is slight increase in the rate and force of contraction of the heart. The drug is absorbed completely from the intestine.

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Geriatric Services

SIR,—Increasing reports in the daily newspapers and other publications draw attention to the gradual although inevitable ageing of the population of this country and express dissatisfaction at present arrangements for dealing with the elderly. To many in the medical profession these facts must be well recognized; and who would not admit that, as far as the National Health Service is concerned, it is the elderly and chronic sick who receive the thin end of the wedge? Yet so far there is no intimation that even a start has been made in facing up to these problems.

From the hospitals there is always the cry of shortage of beds, shortage of staff, and how often is the first inquiry of the resident doctor not "How ill is the patient?" but "How old is he?" Local authorities provide some homes which are extremely good, but it is well known that increasing demand entails frequent revision of five-year plans, and few areas could boast that they have more than 50% of their accommodation requirements. Otherwise the senile have to look to homes run on a private basis where conditions are seldom ideal, occasionally pathetic, and charges more often exorbitant. Again in general practice overall there must be thousands of old people who are lacking medical attention for reasons which may be enumerated: (i) too feeble or sick to wait long hours in their doctors' surgeries, (ii) a feeling that they are a burden on their doctors, (iii) a breakdown in a doctor–patient relationship, which is not uncommon with the chronic sick, and which keeps each from seeing the other, (iv) complacency on the part of some doctors with regard to the elderly, (v) the general practitioner's time is already occupied with more urgent calls in the practice.

Some of these points may be a question of finance, building, and administration, but from the clinical standpoint there is reason to believe that cases of chronic sickness might well be handled with the co-operation of the general practitioner at clinics where regular medical supervision was available: to be specific, such cases as chronic heart failure, chronic arthritis, some types of malignant disease, and disabilities associated with arteriosclerosis and hypertension. That there is an over-emphasis on infant welfare to-day would receive widespread support, and indeed did at the recent Sheffield conference; why then should effort not be expended along more appropriate channels with the establishment of an efficient geriatric service throughout the country? It is long overdue and must eventually come from public demand.

What offers have the medical profession to make? To the casual reader the geriatric problem appears only to have become a reality to members of the national press.—I am, etc.,

Chichester, Sussex. PETER R. T. WOOD.

Examination of Nurses

SIR,—Secure behind the usual anonymity of an annotation, one may become almost deified. Your annotation (September 2, p. 635) seems to be an exception, and I do not think the views expressed were necessarily inspired from on high. At considerable risk of being tediously repetitive, it is abundantly clear to all of us that professional standards and conditions of service within the nursing profession have materially altered over the past quarter of a century, and nothing anyone can do now will restore them to what they were in the "good old days," if that is roughly what your annotation would wish for.

Without going into detail on the present educational policy of the General Nursing Council, particularly as regards the ways in which it can be implemented in all parts of the country, it would appear entirely unhelpful to suggest that a "good" nurse, in the sense that everyone clearly understands the term, can possibly function properly within any modern unit unless she has been well grounded in the theory of her subject, as well as in its essentially practical aspects.

Muddled thinking too often attributes pride of place nowadays to the so-called "practical" man or woman, perhaps to the disparagement of the person who can also think clearly, dispassionately, and consistently, even under adverse circumstances. In particular, an apt combination of practical and theoretical attainments in every girl who achieves State registration is obviously desirable, but not always possible. It would appear that this seemingly laudable aim is what the General Nursing Council has had in mind over past years, and for you to write somewhat unrealistically of these aims as being no more than an "ordeal by examination" is to view the problem very superficially, and with far less statesmanship than you normally display. On the other hand Miss B. J. Smith (September 16, p. 770) scarcely does the cause much credit when she suggests that your annotation "smacks of the attitude of certain medical men who would strive to keep the nurses as ignorant as possible," and I very much doubt whether this particular point ever entered the thoughts of your annotator. A little ungracious, her statement takes us back to the days of the Crimea, and might well be withdrawn on more mature reflection. In an otherwise sound and constructive reply, Miss Smith has probably interpreted the general views of most of us with fair accuracy, and it can only be hoped that as a result of your brief encounter with Miss Margaret M. C. Louden (September 2, p. 648) her primary aim in writing to you will ultimately be achieved.—I am, etc.,

Liverpool 1. H. VINCENT CORBETT,
Examiner,
G.N.C. Final General Examination.

Orange-bolus Obstruction

SIR,—I read with interest the letter from Mr. P. M. Binns (September 9, p. 710) on orange-bolus obstruction. This condition must be more common than is realized. I have knowledge of four similar cases in the past two years, three of which I dealt with personally.

The first was operated upon and in the lower ileum was a soft mobile mass, feeling for all the world like a tangled-up, soft leather strap. Through an enterotomy two segments of orange were produced. It is said that we learn from experience, but evidently I did not learn fast enough, for when the second case presented an accurate diagnosis was not made. At laparotomy the condition was immediately recognized and the pith was milked on without difficulty into the caecum. The third case was again the picture of a small-intestinal obstruction in a patient who long previously had had a partial gastrectomy. The house-

surgeon confirmed the diagnosis by seeing fluid levels on an *x*-ray and had asked for theatre facilities. This time I was alert to the possibility and the answer to a direct question provided the vital information that the patient had swallowed precipitantly part of an orange the day before. Operation was postponed and after a few hours the colic disappeared.

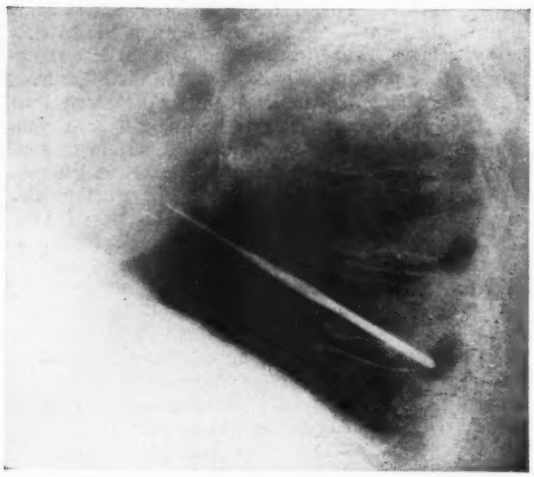
In the first two patients the impaction was loose and the obstruction would probably have been overcome by the contractions of the intestine. This in fact happened in the third patient. It may be worth while warning patients after the operation of partial gastrectomy of this hazard.—I am, etc.,

Whitehaven, Cumberland. J. P. TURNEY.

Crochet Hook in Lung

SIR,—The accidental discovery of unsuspected foreign bodies in all parts of the human body is a common experience, but their infinite variety is a constant source of interest.

A housewife aged 65, a keen crochet worker, was referred to the mass miniature radiography centre in Glasgow for routine examination after a respiratory infection. The right lung base was not clearly visualized on the miniature film, and the patient was recalled for full-sized postero-anterior and right lateral films. Both radiographs showed a well-preserved crochet hook lying



about one and a half inches (4 cm.) above and parallel to a slightly elevated right diaphragm, with the pointed end encroaching on the posterior part of the right heart shadow.

The patient was asymptomatic and without physical signs. She was unaware of the loss of a crochet hook, although she remembered an incident which occurred in the summer of 1942 when she was doing slimming exercises. These consisted of sitting on the floor and throwing herself forcibly backwards on the carpet. It was while she was doing this that she experienced a sudden "prick in the back." She found a small round red spot at the site of the "jag," and her family doctor referred her to the local hospital for *x*-ray examination. She heard nothing further of the result of this examination and had assumed that no abnormality had been detected.

It is of interest that a foreign body of this size could be lodged in the chest over such a long period without any apparent untoward effect, and that the foreign body itself appears to be embedded in normal lung tissue. The only abnormality in the *x*-ray plate is a slight elevation of the right diaphragm which could conceivably be associated with an old pleural reaction.

The general consensus of opinion was that no action should be taken apart from a repeat *x*-ray examination in one year's time.—I am, etc.,

Glasgow. V. M. HAWTHORNE.

Congenital Dislocation of the Hip

SIR,—I think the following observations from Dr. Amin Rida, an orthopaedic surgeon in Alexandria, in answer to some queries of mine are so interesting in regard to recent correspondence that I hope you can publish them. The points are:

(1) Rarity of congenital dislocation of the hip in Egyptians is an undoubted fact. The orthopaedic department of the Alexandria University admits 10,000 orthopaedic and traumatic cases yearly, with a case of C.D.H. only every one or two years. In contrast they get 100 new cases of club-foot a year.

(2) Degenerative osteoarthritis of the hip is hardly met with in Egyptians, in contrast with arthrosis of the knee, which is very common.

(3) Professor Hamada, emeritus professor of orthopaedics at Alexandria, thinks that Egyptians have better-formed hips than Europeans, with less tendency to dysplasia.

(4) The common way of carrying babies in Egypt is on the arms with the legs together.

May I say that these observations confirm my own opinion that the shallow hip-joint is a racial characteristic: a similar condition is causing trouble in certain breeds of dogs (*The Field*, May 25, 1961). I do not think that extension of hips after birth causes what is accurately called congenital dislocation, though many hips can be much improved by abduction manipulations in early infancy. But that is another story.—I am, etc.,

London W.1. DENIS BROWNE.

Plantar Warts

SIR,—With all due respect to Dr. C. F. H. Vickers (September 16, p. 743), I must reply to his assertion that radiotherapy has fallen into complete disrepute in the treatment of plantar warts owing to the disastrous side-effects. At the Royal Northern Hospital, with the careful use of radiotherapy, failure to cure a wart completely is a rare occurrence. Pain disappears within two weeks following treatment and the inactive residue is then easily rubbed away with glasspaper during the next three to four weeks. Long-term follow-up has shown no sequelae and, in particular, no visible scar.

As there are alternative treatments for this non-malignant condition the use of radiotherapy must be justified. It is hoped to publish a long-term follow-up on a substantial collection of cases at a later date. Meanwhile, prompt relief of pain and lack of psychological trauma in a young child has much to commend it. A significant proportion of these cases have previously received divers treatments by chiropodists, general practitioners, and dermatologists without success.—I am, etc.,

Royal Northern Hospital, London N.7. R. M. CLARK.

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Reversed-ear Syndrome

SIR,—I was puzzled by Dr. Henry Hollis's comments (September 9, p. 710) on my description of reversed-ear injury (August 19, p. 483), particularly by the following sentence: "Dr. Jarrett's idea of the drum being perforated through outwards (by explosion of air from the middle ear) just did not happen. . . ." My article stated several times that *the drum is not injured in any way in reversed ear*, and even included a picture of a normal drum to stress this fact. Your annotation very correctly singled out this point for repetition, for the accepted but erroneous belief among divers has been that the drum is actually ruptured outwards in reversed ear. Cousteau never investigated reversed ear; he was merely quoting current opinion when he said, "Pressure building up in the Eustachian tube would have forced my drums outwards, eventually to bursting point" (*The Silent World*, Ch. 1, para. 7).

It seems that Dr. Hollis while serving in the Royal Navy in 1953 was aware of the nature and causes of reversed ear. Unfortunately the number of cases of the condition continued to increase up to the end of 1960, when the Admiralty Experimental Diving Unit was officially asked to investigate the problem. The foam-rubber hoods mentioned in my article are now being tried out in the Royal Navy with satisfactory results. No foam rubber is completely porous and some degree of partial vacuum can still be measured inside this material under diving conditions. However, this is so much less than in watertight suits that only one case of reversed ear has been seen in the last six months.—I am, etc.,

Gosport. ANTONY JARRETT.

Personal Medical Records

SIR,—With reference to your correspondence on personal medical records (September 9, p. 705), may we point out that cards and disks indicating diabetes are available from this Association, and have been for over 20 years.—I am, etc.,

The British Diabetic Association, 152 Harley Street, London W.1. JAMES G. L. JACKSON.

SIR,—The letter by Drs. John Fry, H. J. Parish, and D. A. Cannon (September 9, p. 705) and its subsequent amplification by Dr. Fry in the edition of *Pulse* of September 16 will arouse much interest, especially with those of us who have dealings with patients in casualty departments.

I am sure it is the hope of many practitioners that a standard personal medical card will be introduced on a national basis. I realize that some means of persuading the vast majority of the population to carry these cards with them always will be no easy task. However, most of us who drive a motor vehicle have no strong objection to our statutory obligation to carry our driving licence and certificate of insurance on our person, and the same feeling would eventually apply to our personal medical record card.

The accurate completion and keeping up to date of the personal record card would impose a heavy burden on chiefly the general practitioner and public health services, and, if expected of us, must also bring an appropriate financial reward for the time and energy expended. In his article in *Pulse* Dr. Fry suggests that the details of operations should also be given to the patient in writing, and these details presumably could be included on the same personal record card. I am sure most doctors have had the unenviable experience of looking at an "acute" abdomen with a laparotomy scar and having no means of deciding, for instance, whether the appendix was coincidentally removed when the laparotomy was performed. This is just one of the examples of where an accurately compiled record card would be of the utmost value.—I am, etc.,

Bromsgrove, Worcs. H. M. WHITE.

Shrunken Numbers

SIR,—It is necessary for reference purposes to record the batch numbers of the various vaccines used for antigenic purposes. Can the manufacturers have any sound reason for reducing the size of the lettering and numbers which one is required to record to such microscopic size as to be practically indecipherable?—I am, etc.,

Newport, Isle of Wight. JOHN MILLS.

Psychopaths Aged Over 25

SIR,—Dr. Seymour Spencer (September 16, p. 769) is rightly concerned about this problem. It seems to me, however, that the answer is fairly simple. If one of my patients constantly made attempts to commit suicide and refused to remain in hospital for a period of adequate supervision, I should have no hesitation in making out a Section 26 order on the basis that this person was suffering from a mental disorder and that he or she was a danger to him or herself. I feel certain that this would be supported by the courts and that any tribunal would understand the necessity for prolonged treatment and custody.—I am, etc.,

Hellesdon Hospital, Norwich. W. J. ABEL.

Malaria and Glucose-6-phosphate Dehydrogenase

SIR,—I am indebted to Dr. A. C. Allison and Dr. D. F. Clyde for their letter (August 19, p. 521) which throws new light on the reference to Field[1] in their original article (May 13, p. 1346). One can now see that this was not, as I had supposed, a misinterpretation of Field's results; it was instead a generalization from those results, and as such merits closer study.

Put briefly, the argument is as follows: Field used various drugs to treat Asian patients admitted to hospital in Malaya with acute uncomplicated falciparum malaria. When pre-treatment counts were below 100,000 parasites per c.mm. of blood the case mortality rate was 0.5% (11 deaths in 2,139 patients), whereas with pre-treatment counts above 100,000 per c.mm. the case mortality rate was 22% (39 deaths in 177 patients). Although most patients with counts below 1,000 per c.mm. were excluded from his data as being unsuitable for drug-testing, the 50 patients who died had all had counts of more than 2,000 per c.mm., and 47 had had counts of 30,000 or more per c.mm. (Table I, p. 37). Field concluded that the parasite count before treatment began formed a valuable guide to the chances of recovery; therefore, say Drs. Allison and Clyde, "we chose the level of 1,000 parasites per c.mm. because on available evidence, reinforced by our own experience in tropical Africa, infections with

parasite counts above this level are potentially lethal, whereas infections in which the parasite counts are below this level are not."

The response of falciparum malaria to drug treatment is so variable that one would like first-hand evidence before applying a Malayan index of lethal potential to African conditions. Nevertheless, this statement would make some sense if it referred to African children about to receive treatment for acute malaria; it seems to have no relevance whatever to the parasite counts recorded by Drs. Allison and Clyde. Two-thirds of their blood films were collected during village surveys, others came from infant-welfare and out-patient clinics, others again were repeat films from many subjects seven weeks to six months after they had been given a single dose of chloroquine; these were all added to give a total of 876 parasite counts from 532 children.

In such circumstances the level of parasitaemia is likely to vary from day to day. Until it exceeds a level where death would seem inevitable, no one could decide whether any given parasite count had come from a child who was gradually succumbing to the infection or from one who was developing the tolerance to heavier parasite loads which is an early stage in the development of immunity. Every untreated infection must be regarded as potentially lethal, and the meaning to be attributed to different levels of parasitaemia could only be elucidated by repeated examination of the same individual over a prolonged period and by correlating parasite counts with clinical findings.

To sum up, I do not question that Drs. Allison and Clyde found a difference in the distribution of parasite densities between children with low enzyme levels and those with normal levels; what I dispute is that the difference as recorded provides any evidence of protection from the lethal effects of falciparum malaria.—I am, etc.,

Liverpool School of Tropical Medicine, Liverpool 3. T. WILSON.

REFERENCE

[1] Field, J. W., *Trans. roy. Soc. trop. Med. Hyg.*, 1949, **43**, 33.

Seasonal Incidence in Clinical Onset of Hodgkin's Disease

SIR,—A surprisingly large number of patients first notice their malignant lumps (or any other *chronic* lesion for that matter) at Christmas-time, and I have no doubt that in Scotland the lump just as frequently comes in with the New Year. Perhaps this explains the frequency with which Hodgkin's disease first attacks the patient in December in London and in January in Edinburgh (September 16, p. 765).

I rather think October would run December a close race in Hull. We have a traditional large fair in that month.—I am, etc.,

Hull, Yorks. K. W. BEETHAM.

Aspirin Anonymous

SIR,—I was recently called to see a patient in severe status asthmaticus who was deeply cyanosed and orthopnoeic. She responded well to routine treatment. Later questioning revealed that she had not had an "attack of asthma" for many years but she was well aware of an allergy to aspirin which had often brought on an attack previously.

Whenever she bought an analgesic from a pharmacist she inquired whether it contained aspirin, and had successfully avoided contact with the drug for a long period of time. However, on this occasion she had a mild stomach upset and a friend recommended an "alka-seltzer." Not surprisingly she did not associate an apparent antacid with aspirin, with the results outlined above.

Although each bottle of alka-seltzer has a written formula including salicylate I feel it unreasonable, even in these days of the enlightenment of the *Reader's Digest*, *Family Doctor*, and "Your Life in Their Hands," not to mention "Emergency Ward 10," to expect the average lay person to realize that salicylate and aspirin are virtually the same thing.

I should be interested to know whether other readers have had similar experiences and whether they think that some such insert into the blurb as "Contains aspirin" would not be desirable.—I am, etc.,

New Quay, Cardiganshire. D. B. DAVIES.

Oslerian Whimsy

SIR,—During his lifetime the import of Sir William Osler's occasional remarks was not infrequently misinterpreted, and, judged by a conclusion drawn by one of your book reviewers from a statement in a small essay of mine, erroneous deductions may be made even to-day. Such indeed occurs in the *Journal* for May 27 (p. 1516), where a bit of Oslerian whimsy is inadvertently misconstrued, both in amplitude and meaning. The comment in question relates to one of Osler's reactions when confronted with a difficult diagnostic problem: "One could almost hear him say to himself: How would Hippocrates have looked at this situation, or Harvey, or Sydenham?" Perhaps the meaning would have been clearer if I had indicated that the phrase was one used by Osler himself and was far from an "obvious exaggeration" on my part. It was simply Osler's way of stimulating my interest in medical history and characteristically was reinforced later in the day by a small pile of books, set aside in his library for my perusal or surreptitiously placed on my bedside table. The thought-provoking spur, moreover, had nothing to do with any reliance, as supposed, on "help in clinical matters" from the great physicians of the past. But from them, in Osler's way of thinking, much could and should be learned regarding the art of practice in approaching or leaving a patient. It was a point Harvey Cushing had particularly advised me to look for; to have missed it would surely have been a failure to see one side of Osler's effervescent personality. The irrepressible sense of the whimsical was never far from the surface and could not be kept indefinitely in the loose-box of his mind.

The remark was entirely characteristic of the man, given a knowledge of the environment at Oxford in 1916 and the circumstances surrounding the incident. Osler had almost completely retired from clinical medicine. Except for an occasional consultation, usually at a considerable distance, a rare visit to the local infirmary, a quick tour of the Canadian military hospitals, his life was encompassed by the war effort and, in his scant leisure, devoted to the editing of the current edition of the textbook. Much of his thought, moreover, was focused on medical history, for his library was his chief concern at the time and the cards for the *Bibliotheca Osleriana* were ever at hand. Gone were the arduous clinical rounds at Johns Hopkins and the ever-increasing burden in America of private practice, mostly devolving on the problems associated

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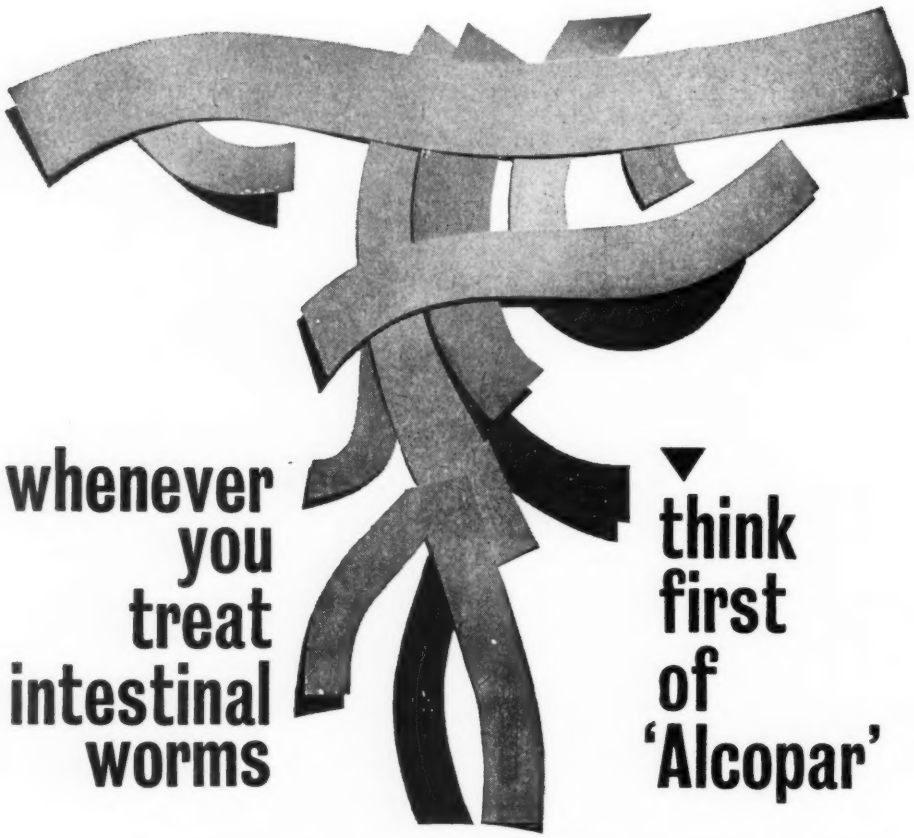

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with physicians and their families. It was partly to escape this trying life that Osler went to Oxford, leaving behind a sorrowing medical profession, much disturbed, as he was, by the notoriety exploded by his kindly intended comments on the ageing physician.

So misunderstood even then, his jocose banter, attuned for a private farewell, are the only Oslerian words to find their way into *The Oxford Dictionary of Quotations*.—I am, etc.,

HENRY R. VIETS,
Curator,
Boston Medical Library.

Boston, Massachusetts, U.S.A.

Schizophrenia in General Hospitals

SIR,—While expressing our appreciation of Dr. Russell Barton's philosophical approach to the problem of schizophrenia (September 9, p. 709), we feel that it should not be allowed to pass unanswered.

There is no doubt that Pinel in the eighteenth century was well advised to put his faith in almost anything rather than the pharmaceutical remedies of his time, of which the best that could be said was that at least they did the patient no harm. This could hardly be said to apply now.

We have also given some thought to the enigma of why the schizophrenic should require psychiatric attention after having lived in the community with his illness, often for long periods. One conclusion, for which we would not claim infallibility, is that it is due primarily to an exacerbation of the illness itself. Social, financial, and other difficulties shortly result, and these can be easily misinterpreted as being cause rather than effect.

The problems involved in the community care of the schizophrenic are very considerable, sometimes insuperable, and if persisted with in the face of such difficulties may lead to the disruption of the community itself. Rather than modify the community to absorb the schizophrenic we believe the better approach is to attempt to control the illness of the schizophrenic so that he fits into a normal community.—We are, etc.,

R. H. BOARDMAN.
A. G. FULLERTON.
M. S. BETHELL.
S. M. CONWAY.

Dorchester.

Electric Convulsion Therapy

SIR,—Dr. W. E. R. Mons (July 29, p. 307) has drawn attention to the fear of E.C.T. that some of his patients have experienced. This is important because no doctor wants to frighten his patients. Many psychiatrists are unwilling to give this treatment, even though it would do a lot of good to the patient, because fear arising during the treatment may cancel the therapeutic effect and because it tends to induce a negative public attitude towards a treatment of potentially great value—so much so that the editor of a national daily newspaper in Calcutta referred to it recently as a "brutal" form of treatment. There are many causes for dislike and fear of this treatment and many ways of avoiding such reactions, but there are two things I would like to say here.

First, the practice of giving a standard dose of thiopentone is responsible for some patients, possibly including the one mentioned by Dr. Mons, feeling the distressing effects of suxamethonium chloride as too little anaesthetic has been given. On the other hand this standard dose may be too much for some patients, and lead to complications. The dose of thiopentone should always be suited to the individual patient. It is given slowly, at a steady rate of about 0.1 g. per minute, with the patient counting aloud. With a little experience in watching the reflexes it is not so difficult to assess the most suitable state of unconsciousness, and even if one is inexperienced one can take the help of a frontal E.E.G. recording, which shows copious 16–20 c/s activity as soon as the end-point is reached (if the patient has had several treatments before this fast activity is replaced by high voltage 3–5 c/s slow waves). I have treated about 800 cases using this technique. The average dose is about 0.2 g. with a variation from 0.1 g. to 0.5 g. in Indian subjects. The exact figures are under preparation and will be communicated when available.

Secondly, it is essential to reassure the patient at all stages of the treatment and ensure, by the lay-out of the clinic and the details of procedure, that nothing avoidable is done to frighten the patient.—I am, etc.,

R. B. DAVIS.

Ranchi, India.

Lolly Rash?

SIR,—I have just received my *B.M.J.* for August 19 and would like to mention that I have seen skin rashes here after the ingestion of coloured sweets and lollies. These dermatoses resemble fixed drug eruptions, and it would be interesting to know from Dr. Alun Lloyd-James (p. 525) if the lolly rashes he saw were circinate, pigmented, or bullous.

I have tried to discover what colouring matter is used in these sweets and ice creams, but so far I have failed to do so.—I am, etc.,

H. J. KINGSLEY.

Bulawayo, S. Rhodesia.

Pythagoras and the Beans

SIR,—There is much more than his teaching on beans which is puzzling about Pythagoras. This is not surprising since so little definite is known about his life and work. The surviving biographies by Diogenes Laertius, Porphyrius, and Iamblichos are often self-contradictory, and we have to rely on fragments gleaned from earlier writers to corroborate or supplement their accounts and to support any views which we may hold about his teaching. No writing of his survives—indeed, we are not sure that he wrote anything at all. The secrecy of the Pythagoreans makes it difficult to distinguish how many of the beliefs attributed to him by later writers are really his and how much of his teaching is frankly Orphic or owes much to Orphism. As a native of Samos he would have been steeped in the Ionian scientific tradition, but his forced move to Croton must have brought him into close contact with the Orphic cult there. A further difficulty arises from the splitting of the Pythagoreans into two sects, the *Akousmatikoi*, who were religious and believed in revelation, and the more scientifically minded *Mathematikoi*. Aristoxenus numbered some of the latter among his friends, and not unnaturally, as befits a pupil of Aristotle, he wishes to display them and their master in a favourable light. He must therefore be regarded as a biased source of information.

It would be fair, on the whole, to say that the Pythagoreans had adopted and adapted Orphic rites and practices which they rationalized and made acceptable to the more educated section of the community—that is, they made a mystery cult fashionable and "U." Be that as it may, Orphism and Pythagoreanism have many things in common,

including a belief in the transmigration of souls, and both prohibited the eating of beans: because to do so is equivalent to eating the heads of one's parents. It would take up too much of your space to trace the origin of this belief, as it would involve us in tracing the development of the idea of the *psyche* or soul as well as the Orphic belief in the descent of the soul into the underworld or Hades. We would also have to consider the significance of the lack of nodes in the bean shoot which permits the soul to escape from the underworld and how the soul manages to get into the bean pod.

I think it is a mistake to seek a rational explanation for the taboo such as that put forward by Dr. George Discombe (August 5, p. 385) that Pythagoras was warning his followers against venereal excess. Most, if not all, of the sexual significance of beans came much later. Thus the likeness to the *feel* rather than the shape of human testicles (because the early broad bean was much rounder, even in Theophrastus' time, than it has become since). The suggestion of Aristoxenus that κύαμος (bean) and κύειν (to be pregnant) are homophones is not quite the whole story, since most authorities would agree that both words come from an earlier Indo-European word *bhouna*, meaning to be swollen or bloated. A well-known effect of eating beans is flatulence, and an obvious consequence of pregnancy is to swell up or be bloated. Incidentally, Pythagoras could hardly continue any of Empedocles' practices (*pace* Dr. Discombe), since he probably died some time before Empedocles was born.

Dr. T. H. D. Arie's attractive theory (September 9, p. 709) that Pythagoras either suffered from favism or knew its cause, supported as it can be by judicious culling from the classical literature, demands medical sophistication from the sage far in advance of his time. It is conceivable that an acute observer, brought up in the Ionian school, might have noticed that attacks followed the breathing-in of pollen from a bean field (this would, I am sure, have provoked interesting speculation on the effect of beans on the *pysche* had he in fact done so), but he would have had to be a remarkably perspicacious observer indeed to distinguish the jaundice which follows the consumption of broad beans in individuals whose red cells are deficient in glucose-6-phosphate dehydrogenase or glutathione from other forms of jaundice.

It is no longer necessary for us to think that everything Greek was rational, for, as Professor Dodds has reminded us in his delightful Sather lectures,[1] they were irrational in many of their ways, and it is to their great credit that they sought a simple explanation for the world around them and thus laid the foundations of scientific knowledge, for beneath all this there was a strong undercurrent of irrationality.

Dr. Discombe and Dr. Arie are merely following Aristoxenus in their quest for a rational explanation of some of Pythagoras's beliefs and practices when they might have learned more by reading Freud and Jung, and they might recognize too that Pythagoras and the latter have a great deal in common.—I am, etc.,

Guy's Hospital, London S.E.1. E. J. MOYNAHAN.

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[1] Dodds, E. R., *The Greeks and the Irrational*, 1951. Sather Lectures, Vol. 25. Cambridge Univ. Press, London.

Abdominal Wound Dehiscence

SIR,—Mr. A. W. G. Weir (August 19, p. 520) reports a low incidence of dehiscence in lower abdominal wounds repaired with catgut, but his conclusion that the suture material used does not influence the frequency of dehiscence is a complete *non sequitur*, since he has no series sutured with other materials to use for comparison. The basic points of wound repair which he mentions—that is, secure knots, absence of excessive tension, and haemostasis—would not affect the early digestion of catgut which is a common feature of disrupted wounds, even when there is no infection.

It is generally accepted that vertical wounds in the upper abdominal wall are much more liable to dehiscence than those in the lower abdomen, presumably because they are subjected to tension on expansion of the thoracic cage. My own studies have been mainly on upper abdominal wounds, and the conclusions (July 29, p. 308) apply with greater force to those whose work involves the repair of incisions in the upper abdomen.—I am, etc.,

Manchester 13. HERBERT HAXTON.

***This correspondence is now closed.—ED., *B.M.J.*

Peritoneoscopy

SIR,—Professor Rodolfo Herrera-Llerandi's article (September 9, p. 661) has made me feel it worth mentioning that the Genito-Urinary Manufacturing Co. made for me a modification of an excellent instrument devised by Mr. R. Sampson Handley, Middlesex Hospital, which we propose to describe in the near future. It now consists of two introducing cannulae, both equipped with airlock levers so that the inspection telescopes — oblique and right-angled — can be exchanged. The second cannula enables an insulated shaft forceps to take a bite from the liver edge by diathermy. The current is surface-conducted, preventing destruction of the specimen contained within the bite. The forceps can be clearly seen during manipulation through the telescope. A special fitting for the instrument consists of a pair of beta-ray isotope probes with windows to place against tumours. The idea is to detect malignancy or residual malignancy after radiotherapy by its increased radio-phosphorus uptake.[1-3]

It would appear that there is a case to support the contention of your writer that a peritoneoscope may be very useful in well-selected cases free from risk. This minor procedure from the patient's point of view may be preferable to laparotomy. On the other hand, a laparotomy (possibly of the peep-hole type) may sometimes be safer and surer, though it cannot be said that this is entirely without risk.—I am, etc.,

London N.7. A. GREEN.

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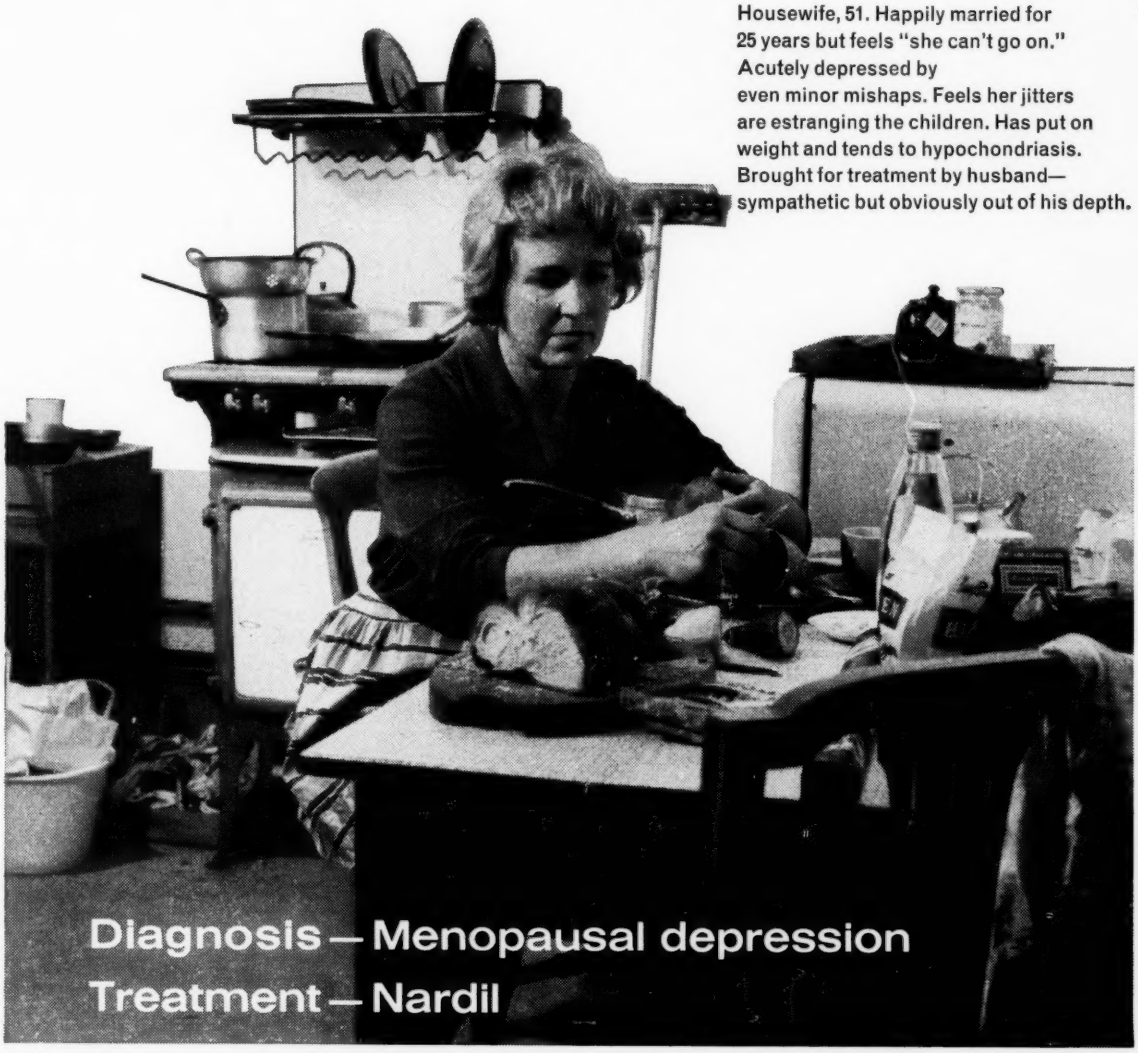
[1] Green, A., *Proc. roy. Soc. Med.*, 1959, **52**, 482.
[2] —— *et al.*, B.E.C.C. Annual Report, 1960, p. 707.
[3] Hale, B. T., *Lancet*, 1961, **2**, 345.

SIR,—The conclusion proposed by Professor Rodolfo Herrera-Llerandi in his excellent account of this technique (September 9, p. 661) may seem over-enthusiastic to British readers, yet it will be readily accepted over most of Continental Europe, where the technique is extensively practised by both surgeons and physicians, especially since colour photographic records of the field of view have become possible as a routine procedure. From his reference to his difficulties from misting of his telescope, it must be assumed that Professor Herrera-Llerandi has not yet experienced the Universal Endoscope System. In this design a small steady stream of air is continuously directed across the telescope lens, so keeping it mist-free. This same channel can be used for introducing the air or other gas of choice from an anaesthetic machine to maintain the pneumoperitoneum; it is a great convenience. The

Her family was bewildered...



Housewife, 51. Happily married for 25 years but feels "she can't go on." Acutely depressed by even minor mishaps. Feels her jitters are estranging the children. Has put on weight and tends to hypochondriasis. Brought for treatment by husband—sympathetic but obviously out of his depth.

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System is the subject of French patents: instruments embodying this principle are made under licence by Optec Limited of London.—I am, etc.,

London W.1. BRIAN STANFORD.

The Contraceptive Pill

SIR,—Your leading article (September 16, p. 754) provides a fair and accurate assessment of our product "conovid" (norethynodrel 5 mg. and ethynyloestradiol-3-methyl ether 0.075 mg.), but it is marred in our opinion by one misleading comment. You state, "A much larger collection of data than has yet been gathered will be needed before a clear assessment of the efficacy . . . of contraception by this method becomes possible." You later point out that conovid is "effective when taken as instructed." The doubt which you have cast upon the efficacy of the method must presumably be based on concern about effectiveness in normal use, allowing for failure to take tablets regularly. There is published evidence, however, that conovid has actually provided on a large scale a degree of overall contraceptive effectiveness which has never been reported in the numerous published trials of existing methods (see Table and list of references). This published evidence of efficacy is based upon 7,000 cycles of experience. Total experience of the method, including the earlier trials with 10 mg. norethynodrel tablets, exceeds 25,000 cycles spread over six years, and it is difficult to accept your suggestion that, to establish efficacy, we should have accumulated "a larger collection of data." In fact, we believe that this large-scale research project, which we initiated as part of the evaluation of our product, is the most comprehensive that has ever been reported on any contraceptive method. Previous studies have shown the existing methods to be less effective than conovid.—I am, etc.,

Table Showing Effectiveness of Different Methods of Contraception, Taken from Seven Published Reports

	Pregnancy Rates per 100 Woman-years of Exposure						
	Indianapolis, 1938[1]	Belava et al 1938[2]	Morgan and Beebe, 1941[3]	Tietze, 1952[4]	Princeton, 1957[5]	Dubrow and Kuder, 1958[6]	Average Pregnancy Rate per 100 Woman-years
Douche	21	—	—	36	41		31
Safe period	—	—	—	14	38		24
Jelly alone	—	28	—	4–38	—	7·6–8	20
Withdrawal	10	—	—	12–38	17		18
Condom	7	—	22	6–19	14		14
Diaphragm with or without jelly	4	30	9	6–13	14	8·9–9·7	12
Conovid[7]	—	—	—	—	—		1·2*

* Overall pregnancy rate based on 578 woman-years (approx. 7,000 cycles) including cycles in which tablets have been missed.

A full bibliography on contraceptive trials has recently been published.[8]

G. R. VENNING,
Medical Director,
High Wycombe, Bucks. G. D. Searle and Co., Ltd.

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2 Belaval, J., Gould, C., and Gamble, C., *J. Contracept.*, 1938, **3**, 224.
3 Morgan, L. I., and Beebe, G. W., *Hum. Fertil.*, 1941, **6**, 88.
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Shush!

SIR,—May I, as a Freudian (analyst) and as an ex-G.P., respond to Dr. D. Brennig James's interesting observations on "shushing" babies and dogs, to stop them crying or barking (September 16, p. 770)? I should like to do so in accordance with Freud's published teachings, instead of Dr. James's ascriptions to him, these having clearly been derived (by Dr. James) from Jung. Archetypes, and therefore "archetypical situations," belong essentially to Jung's terminology and thought. Freud, however, certainly accepted in a rather general way the likelihood of inheritance of memory traces, especially those relating to self-preservation. This very broad and general kind of affirmation of inherited memories is, however, a far cry from the specificity of shushing, which Dr. James suggests spells out a danger signal to the infant (or dog). Shushing is a sound about the efficacious impingement of which the aurologists might best be asked to give a physiological explanation.

Freud was a distinguished neurologist before his intellectual dissatisfaction with this channel of inquiry into human behaviour caused him, as it were, to think about it for himself, and hence the evolution of psychoanalysis. But if his own works are studied it will be found, as the neurologists of to-day are now discovering, that he never deviated from the "discipline" of neurological orientation, except to anticipate its future directions. In other words, why invent Freud's ideation (about babies being susceptible to being shushed into silence because the shush signals archetypical danger) just in order to dismiss him as a fanciful bletherer?

Having done this, Dr. James passes on to yet another notion, this time of "a positive feed-back" (? crying) which "can be stopped by injecting some noise" (? the maternal shush)—"a white noise"—(? versus the baby's own, still noisier, crying!) "into the system." It might be more profitable to consider the realities of the reinforcing and feed-back functions, as well as consequences, of the hearing of on-going crying, or barking, in the ears, in terms of the following: The baby, if young enough, or so confusedly agitated (partly because of the exacerbating and inescapable noise of crying by which it is assailed), loses track *of itself being the source of the noise.* This is feed-back indeed, one which is usually stopped or stops itself through the preponderating effect of any one of the following three phenomena or their combination: (1) Surprise: evidently the shush noise is a surprise-generating sound, and surprise is a psychical response which stops the run of many conditions, including a hiccup. (2) Recovery of some degree of self-awareness, this having been lost through a mounting combination of disagreeable affects and intractable noise—i.e., some degree of recognition of the "me" or "not-me" source of the noise. (3) Exhaustion or self-dazing.

Dr. James also mentions stuttering, a condition which especially interests me, and its amelioration by background noise. Not only does the feed-back of self-hearing, a reinforcing mechanism in the stutterer, become diminished through marked background noise, but now the sufferer has a *real* and immediate counter-force against which he can, temporarily, pit himself, in lieu of the intra-psychic embattlement, otherwise enacted by him through the psychosomatic channel of a speech defect.

When a G.P., I was once called out urgently by a near-by terrified Italian family. Nothing, it seemed,

could stop the screeching of their 6-months-old-baby. The room appeared to be filled with horror-stricken relatives, from the joggling arms of one of whom I took the infant. With a confidence I did not possess, I wrapped the baby's shawl and blanket firmly around it, placed it in its pram (conveniently standing with its hood up to exclude the window-light) and began to ask questions. But quickly a new horror assailed us all, after the first cries of "Miracle" had ceased. The baby was so silent and still, it could only be dead. Even I had to peer very closely at it, so scaring was this sudden silence. It was just very fast and, I believe, thankfully asleep. For the explanation, see phenomena 1, 2, and 3, all in preponderant combination. For the shush, exchange my own quietude and my, apparently deliberate, speech and behaviour.—I am, etc.,

London N.W.8. AUGUSTA BONNARD.

Pigmentation and the Pituitary

SIR,—Dr. A. M. Nussey (September 16, p. 768) suggests that leucoderma is commoner in persons with thyroid disorders than in the population at large, and asks why such a general disturbance should lead to localized loss of pigment in the skin. The explanation perhaps is that in some cases of hyperthyroidism there is an increased pigmentation in the skin, and that this leads to the unmasking of leucoderma. The latter will plainly not be visible in the unpigmented white subject, but as soon as the background pigmentation rises latent leucoderma will be revealed.—I am, etc.,

The London Hospital, London E.1. J. S. PEGUM.

Church Service for Doctors

SIR,—May I, through the courtesy of your correspondence columns, once again draw the attention of your readers to our special service for doctors which is to be held in All Souls Church, Langham Place, W.1, this year on Sunday, October 22, at 11 a.m.? We greatly value our link with the medical profession and have been encouraged by the support which they have given to these services during the last ten years.

Mr. Arthur C. H. Bell, President of the Royal College of Obstetricians and Gynaecologists, and Dr. Kenneth Robson, Registrar of the Royal College of Physicians and senior physician at St. George's Hospital, have kindly agreed to read the lessons. A buffet lunch is being arranged again this year after the service at the Royal Society of Medicine, through the kind co-operation of the Secretary, Mr. R. T. Hewitt, at a cost of 7s. 6d. a head.

We shall be happy to reserve seats in church for doctors and members of their family who apply for tickets in advance, and also to issue tickets for the buffet lunch. Application (stating number of tickets required and enclosing remittance for the luncheon) should be made to the Church Secretary, All Souls, Langham Place, W.1, by Thursday, October 19.—I am, etc.,

London W.1. JOHN R. W. STOTT, Rector, All Souls, Langham Place.

What the Doctor Said

SIR,—Doctors are frequently amused or astonished by the strange items of medical misinformation their patients have gleaned, often begotten of medical jargon upon lay ignorance. Thus, a general-practitioner colleague was recently puzzled to hear from a cultured and intelligent lady he had referred to me that her mental quirks were the result of "a displaced personality." Perhaps psychiatric jargon lends itself more readily to the creation of neologistic hybrids, but misuse of medical terms is nowadays widespread. An instance that comes to mind is the misuse of "allergy" to describe an aversion to one's mother-in-law, unasked advice, or modern sculpture.

I would be interested to hear of similar laymen's misapprehensions derived from other fields of medicine. —I am, etc.,

London W.1. F. R. C. CASSON.

POINTS FROM LETTERS

Vagotomy for Peptic Ulcer

Mr. HAROLD BURGE (West London Hospital, London W.6) writes: I am sorry that Mr. Garden Hendry (September 2, p. 650) found my letter (August 12, p. 456) not clear. . . . In speaking of recurrent ulceration after vagotomy with gastric drainage I referred to recurrent duodenal, gastro-jejunal, or gastric ulceration. I would suggest that when duodenal ulcer occurs after vagotomy and pyloroplasty, then the lesion is in fact an anastomotic ulcer. However, we need not split hairs.

Aorto-enteric Fistula

Dr. N. C. HYPHER (Slough, Bucks) writes: I found the memorandum on this subject by Mr. H. S. Shucksmith and Mr. G. Wilson (August 26, p. 567) of great interest because a 62-year-old patient who had his abdominal aortic aneurysm wired with 100 ft. (30.5 m.) of 36 gauge stainless-steel wire in January died 17 days later from sudden massive loss of blood from the aortic aneurysm into the third part of the duodenum. The operation notes clearly indicated that the third part of the duodenum was firmly adherent to the aneurysm and that the duodenum was damaged in the process of separating it from the wall of the aneurysm. This abdominal aneurysm was very large, extending up to and including the renal arteries, and on this account resection was not possible.

Panic Immunization

Dr. GUY BOUSFIELD (Broadbridge Heath, Sussex) writes: On the question of providing actual proof that allergic or potentially allergic subjects are more likely to suffer undesirable manifestations following pertussis inoculation than children with a completely clear family history (Dr. A. W. Frankland, August 19, p. 524), this is, of course, a matter of considerable difficulty. One way in which the answer could be obtained would be to inoculate two groups with pertussis-containing antigen, asking my routine questions (July 1, p. 43) in the first, and making no family-allergy inquiries in the second. These would have to be large series in each case, and from my own experience I should regard it as almost malpraxis to treat the second group. I thought the views I expressed on this matter were already widely accepted by most experienced immunologists, otherwise I should have extracted careful notes over the last few years.

Medical V.C.s

Dr. R. T. D. FITZGERALD (Sheerness, Kent) writes: An amusing tale can be told of Assistant Surgeon William Bradshaw, who was mentioned in Major-General R. E. Barnsley's letter (June 17, p. 1762). William came of a medical family, and was third son of Dr. George Bradshaw of Thurles, Co. Tipperary. His eldest brother, George, was a clergyman, and his second brother, Robert, M.D., followed in his father's footsteps in Thurles. William, who was born on February 12, 1830, and died on March 9, 1861, won his V.C. on June 18, 1857, for his conduct in the Residency at

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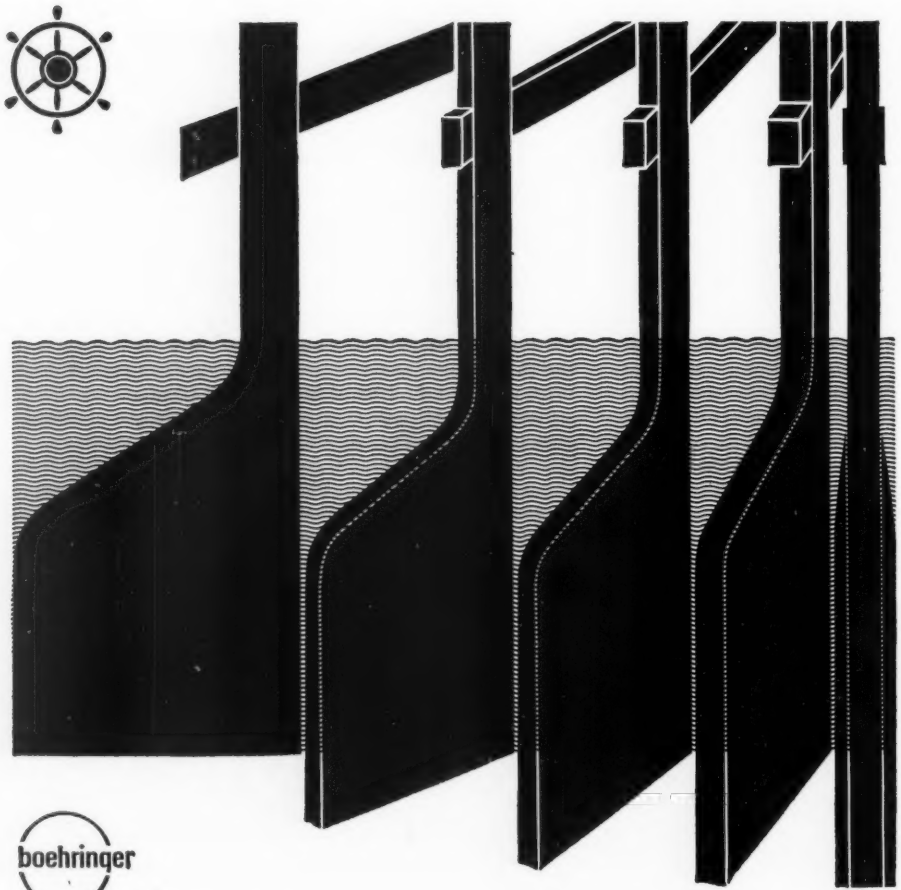


boehringer

Lucknow during the Indian Mutiny. In memory of his valiant brother, Dr. Robert named his eldest son William Lucknow Bradshaw.

"A Small University Town"

Dr. JOHN BROWN (Ferryhill, Co. Durham) writes: To describe Newcastle upon Tyne as a "small university town set in the wilds of the northern hills and valleys" (September 16, p. 762) reflects an ignorance only too common in those less fortunate to live in the South and is not worthy to be repeated in your pages.

Teats and Bottles

Dr. PATRICIA A. ELLIOTT (Newcastle upon Tyne) writes: For my two babies, when we lived in Germany, I used Jena E. R. Glas bottles. These are straight-sided, cylindrical, clear, thin glass bottles. The mouth is larger than the English bottle, admitting nearly one finger. I found them easier to clean—with water and bottle brush kept in a "milton" solution—and the contents heat up more quickly than in the thick glass bottles. Regarding teats, I liked the flanged ones, especially the "natura" Sanger, but there were others, and I sterilized these just before use by boiling and keeping a cover on the pan till use.

Holiday Month

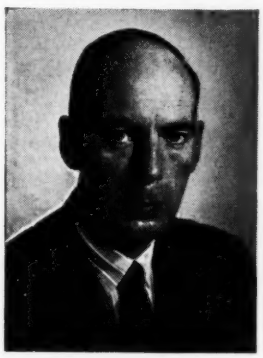
Dr. W. ERIC LISHMAN (Plymouth, Devon) writes: There has been a marked decline in the number of visits from drug firms' representatives in August and a most welcome decrease in the number of advertisements received by post. May this happy state of affairs continue.

Obituary

GLYN C. D. EVANS, M.B., B.Ch., B.Sc., D.M.R.

Dr. Glyn Evans, director of the South Wales and Monmouthshire Radiotherapy Service in Cardiff and lecturer in radiotherapy at the Welsh National School of Medicine, died suddenly at Llandough Hospital on September 18 at the age of 50.

Glynfab Cadifor David Evans was born in Cwmcarn, Monmouthshire, and received his primary education at Newport High School. He went on to study medicine at the Welsh National School of Medicine and graduated M.B., B.Ch. in 1939. After holding house appointments he became interested in radiotherapy and subsequently obtained the D.M.R. in 1942. He was then appointed assistant radiotherapist at the Christie Hospital and Holt Radium Institute, Manchester, where the influence and guidance of his chief, Professor Ralston Paterson, stimulated him greatly throughout his lifetime. His next appointment was chief radiotherapist at the General Hospital, Nottingham, where he remained for three years before returning to Cardiff in 1947.



Overcoming preliminary difficulties he successfully developed the radiotherapy service in South Wales and Monmouthshire. His dynamic personality was such that he was eventually rewarded by the opening of the present modern hospital of 70 beds complete with ancillary services at Whitchurch in 1956. Not content with this, Glyn Evans had planned still further extensions to the present structure, but his untimely death prevented him from seeing the completion of this work.

He was honoured by being made a vice-president of the Faculty of Radiologists in 1960–1 and he was the chairman of the Radiotherapy Committee. An exceptionally good teacher, he was keenly interested in all student activities and was a past-president of the Cardiff Medical Students Club. More recently he was the first secretary of the newly formed Old Students Association. His flare for detail, abundant energy, competence in administration, and shrewdness in clinical judgment, together with a keen sense of humour, endeared him to all his colleagues. A large congregation at the funeral service at Llandaff Cathedral reflected the affection and esteem in which he was held by his many friends and colleagues as well as his patients. He enjoyed a very happy family life, and our sympathies are extended to his wife and four daughters.—D. I.-J.

G. M. W. writes: The sudden death of Glyn Evans will come as a shock to all those who knew him either professionally or as a friend. Those best able to assess his capacity in his chosen specialty will doubtless have something to say on that score. As a friend he was delightful. His continual zest and energy added stimulation to whatever one did in his company. His sharp incisive mind enabled him to listen, analyse, and give sound advice even in regard to a specialty not his own. He never mystified where simplification would do, and he could explain complex problems of physics more clearly than anyone I have known.

It is difficult to know when he was most happy, whether proudly showing visitors round his magnificent hospital, pottering round in his old boat at Saundersfoot, watching Wales trample on England at Cardiff Arms Park, working in his garden, or mischievously making provocative remarks in the company of his chosen friends. Perhaps he enjoyed most of all acting as mine host in his own house, and to see him winking across the room at his wife on such occasions was an indication that everything was going well.

He never lost his humanism and suffered with his patients in a way which would surprise those who judged him only by his cheery assured exterior. His most endearing quality was his ability to make friends easily, naturally, and quickly with young and old, of both sexes, and from any walk of life, and yet always to remain himself. In the minds and hearts of those who knew him he will be missed for his integrity of purpose, his honesty, and his refusal to compromise with hypocrisy or pompous self-aggrandisement wherever he found it. He was a proper man, and no better epitaph could be found.

J. A. E. M. HADLEY, M.B., B.S., F.R.C.S.Ed.

Mr. J. A. E. M. Hadley, consultant gynaecologist to the Lincoln County Hospital, died suddenly at his home in Lincoln on August 8, aged 63.

Born in St. Vincent, British West Indies, John Aubrey Elton Mayers Hadley was educated at Harrison College, Barbados. On leaving school towards the end of the first world war, he enlisted in the Artists Rifles in 1916 and later was commissioned with the Royal Field Artillery, serving with the 55th Division, 5th Army, until 1918. His medical education was at University College Hospital, where he graduated M.B., B.S. in 1924 and held the post of house-surgeon, later becoming house-physician at Leicester Royal Infirmary and in 1926 senior house-surgeon at Lincoln County Hospital. He married in 1927 and came to live in Lincoln, where for some years he was in general practice. In 1928 he took the F.R.C.S.Ed., and six years later he was appointed an honorary surgeon at the Lincoln County Hospital. After the second world war he became a full-time consultant. With the advent of the National Health Service he was appointed consultant gynaecologist to the Lincoln County Hospital and obstetrician to several hospital groups. He contributed papers on various subjects connected with his specialty to the North of England Obstetric and Gynaecological Society and to the *Journal of Obstetrics and Gynaecology of the British Empire.*

He had been chairman of the Lincoln Division of the B.M.A., president of the Lincoln Medical Society, and for 33 years treasurer of the Lincolnshire Medical Benevolent Fund, in which capacity he received valuable help from his wife, who ran the Ladies Guild. A staunch Liberal, he had been president of the local branch. But, above all, his life-long interest had been in the St. John Ambulance Brigade. Having been Corps Surgeon in 1931 and County Surgeon in 1945, he was appointed Commander of the Venerable Order of the Hospital of St. John of Jerusalem in 1955. Both he and his wife were in Palestine for the opening of the new Hospital of St. John in Jerusalem.

A great committee man, he pursued his points with stern determination, but he also brought a fund of humour to temper even the most tedious of debates. He will be sadly missed by all his colleagues on the hospital staff and by the doctors and many patients throughout Lincolnshire who relied upon him for his advice and skill.

To his widow and three sons we offer our sincere sympathy.—W. A. B.

THOMAS IMRIE, M.B., Ch.B.

Dr. Thomas Imrie, who practised in Briton Ferry, Glamorganshire, died at Cymla Chest Hospital, Neath, on August 31 at the age of 62 years.

Thomas Imrie served with the infantry in the first world war, after which he graduated in medicine at Glasgow in 1925. After serving as a medical officer at Christmas Island for a time, he came to Wales and practised in the mining community of Maesteg for a short period before settling in the steel township of Briton Ferry in the early nineteen-thirties. He practised there until his death. He was a founder member and ex-president of the Neath and District Medical Society, in which he presented lively and always controversial papers. He was a much-loved and respected family doctor of the old school, a fact evidenced by the large attendance at his memorial service. He bore with characteristic Scottish courage his long and distressing final illness. Our sympathies go out to his sisters and brothers. —F. C. J. and T. J. A. P.

H. S. WALLACE, M.B., Ch.B.

Dr. H. S. Wallace, who died in retirement at West Hatch, Somerset, on August 25, was associated with the General Hospital, Nottingham, for 40 years. He was 75 years of age.

Herbert Smith Wallace was born at Prestonpans on February 2, 1886, the seventh of ten brothers. Graduating M.B., Ch.B. at the University of Edinburgh in 1908, he became house-surgeon to the North Riding Infirmary, Middlesbrough, and then, in 1910, house-physician at the Nottingham General Hospital. Four years later he was appointed honorary assistant physician to the hospital. Soon after his appointment to the honorary staff Dr. Wallace, an enthusiastic Territorial officer, was mobilized with the Notts and Derby Mounted Brigade Field Ambulance, and went East with them in 1915, but was soon after posted as officer-in-charge of the medical division of No. 88 General Hospital, where he served until his demobilization in 1919.

Returning to Nottingham after the war, he decided to specialize in dermatology and was appointed honorary dermatologist in 1920, an appointment he held until 1948, when he became consultant dermatologist until his retirement in 1951. He also held honorary appointments in the Children's Hospital, Nottingham, and in Newark General Hospital, but his main duties were with the General Hospital in Nottingham.

Outside the hospital he was an active supporter of the B.M.A. and of the Nottingham Medico-Chirurgical Society. From 1924 to 1928 he was joint secretary and treasurer of the Notts Division, and at the B.M.A. Meeting in Nottingham in 1926 he was honorary secretary of the Section of Dermatology. His early work as secretary was recognized by his becoming chairman of the Nottingham Division in 1935–6, and later he became president of the Medico-Chirurgical Society in 1938–9.

His interests were not entirely in the field of medicine. As a young man he was an enthusiastic footballer and played both Association and Rugby football in the same season. Later golf became his hobby, and his weekly relaxation was a four-ball match at Hollinwell. Even in retirement he maintained his interest in sport and took up archery with his customary enthusiasm. An ardent Freemason, he became not only Master of his Lodge but was promoted to Provincial Grand Lodge honours.

Dr. Wallace was a popular member of the hospital staff and took a great personal interest in his younger colleagues. His brisk walk, his incisive speech, his puckish grin, and his fund of common sense will long be remembered with gratitude by those who had the pleasure of being his colleagues.

He leaves a wife and a daughter, a doctor living in South Wales, to whom we extend our sincere sympathy.—W. T. R.

Vital Statistics

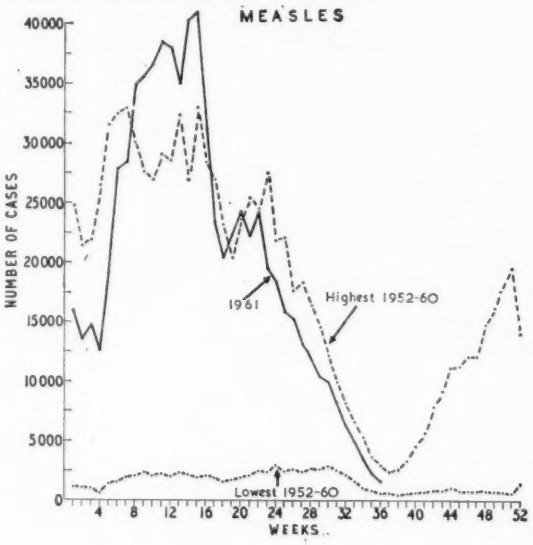
Road Casualties in July

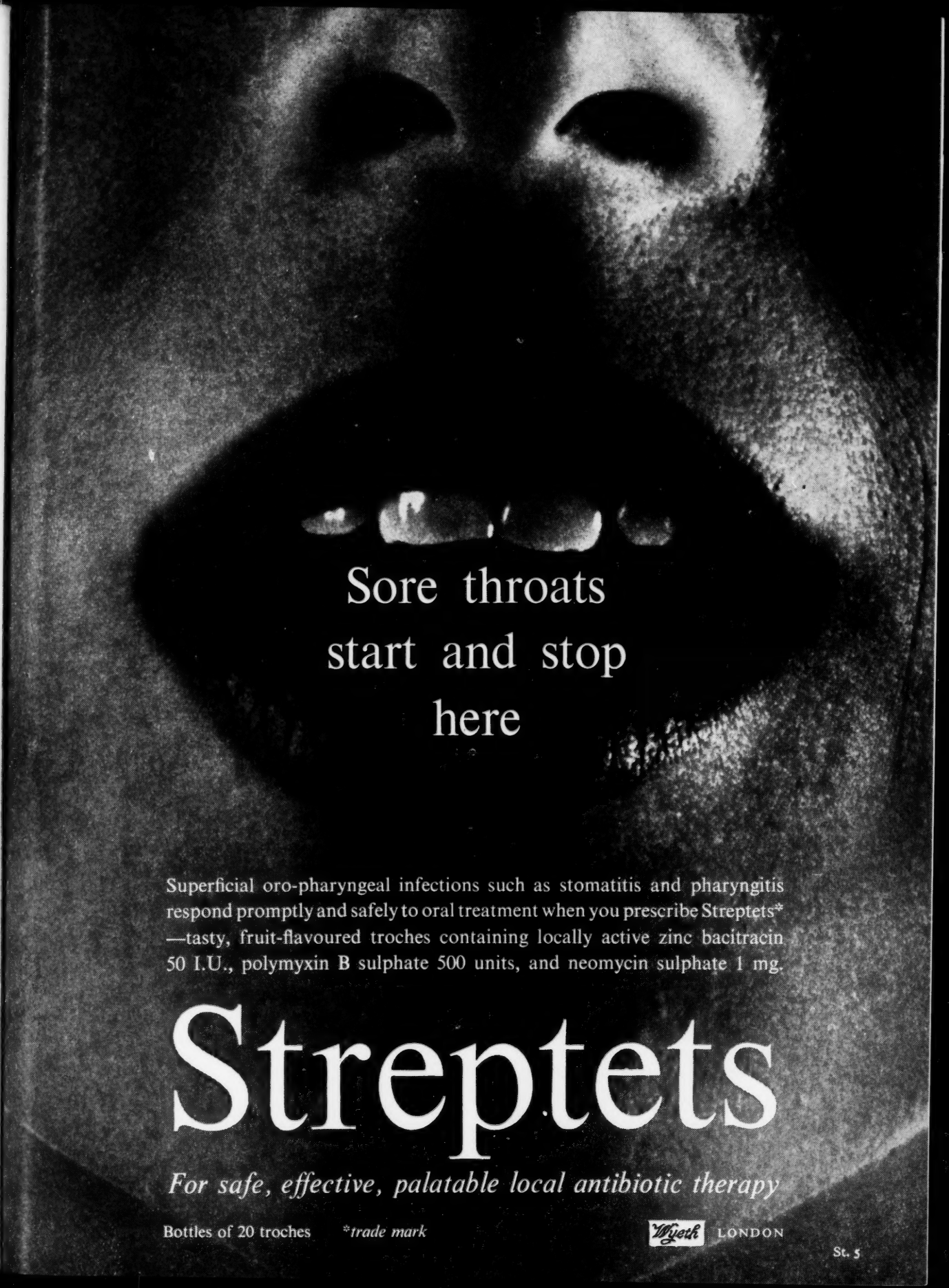
Of the 607 people who were killed in road accidents during July, 207 were pedestrians, 177 drivers or passengers in cars and other vehicles, 174 motor cyclists, scooter, or moped riders, and 49 pedal cyclists. The total number of road deaths for the first seven months of 1961 totalled 3,794, an increase of 4% compared with the same period last year. Motor traffic is estimated to have increased by 9% over the same period.

Casualties among children on foot continued to show an increase. In the first seven months of the year 330 child pedestrians were killed, an increase of 11% compared with the year before. Seriously injured children numbered 4,678, an increase of 12%.

Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported in each week during the years 1952–60 are shown thus ------, the figures for 1961 thus ———. Except for the curves showing notifications in 1961, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.

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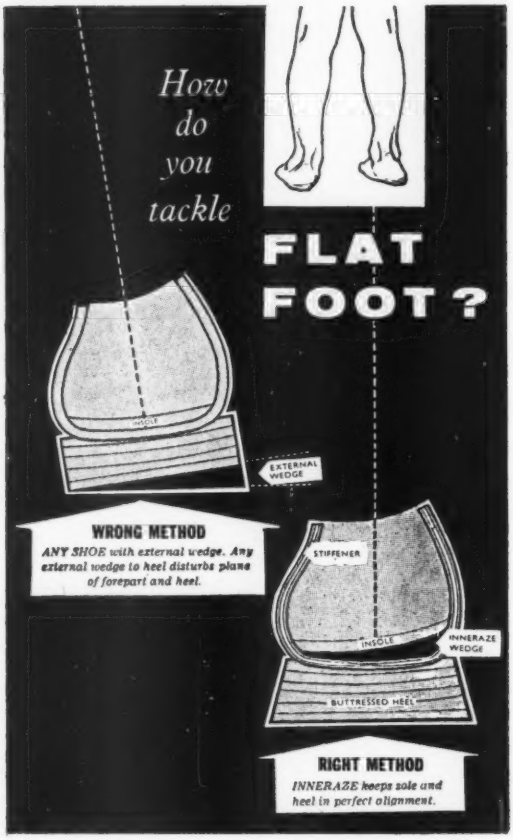

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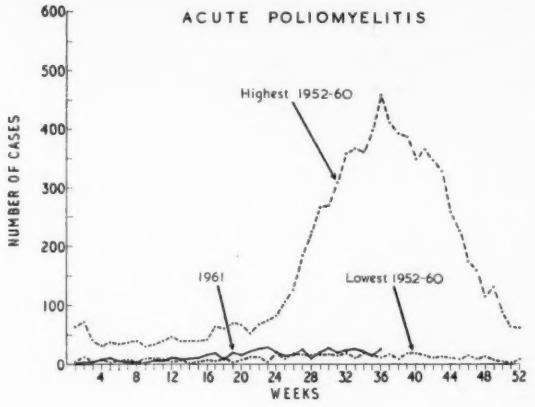
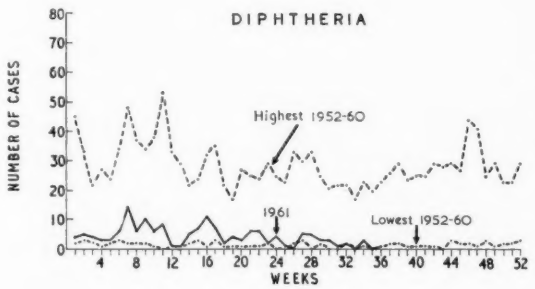




Infectious Diseases

Areas where the numbers of notifications were high in the latest two weeks for which figures are available.

	Week Ending Sept. 9	Week Ending Sept. 16
Dysentery		
Lancashire	69	**76**
Liverpool C.B.	4	**19**
Worsley U.D.	8	**12**
Glasgow	68	**91**
Dundee	23	**33**
Edinburgh	32	**22**
Acute poliomyelitis		
Lancashire	16	**16**
Liverpool C.B.	5	**6**
Food-poisoning		
Lancashire	133	**73**
Blackpool C.B.	95	**35**

More Industrial Accidents

The total of 190,266 accidents reported to the Inspectors of Factories in 1960 was the highest for ten years and 9% above that for 1959. Fatal accidents have been declining since the war, and the total of 354 deaths in 1960 was only 4 more than the record low figure of 1952.

Accidents to women and young persons increased proportionately more than those to men. The increase in the numbers employed in 1960 was not in itself large enough to account for the rise in accidents. The volume of industrial production was larger in 1960 than in 1959, and this is probably a major influence on the incidence of accidents. "More accidents are likely to occur, for instance, when more, or more dangerous, machines are being operated, more goods and materials are being handled or stored, longer hours are worked, and the rate and duration of flow of work is changed."—*Annual Report of the Chief Inspector of Factories, 1960*, H.M.S.O., London, 1961.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **September 9** (No. 36) and corresponding week 1960.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the whole of England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES	1961 Eng. & Wales	1961 Lond.	1961 Scot.	1961 N. Ire.	1961 Eire	1960 Eng. & Wales	1960 Lond.	1960 Scot.	1960 N. Ire.	1960 Eire
Diphtheria	1	0	0	0	1			0	0	
Dysentery	245	31	166	12	1	374	47	142	16	3
Encephalitis, acute	1	0		0		2	0		0	
Enteric fever:										
Typhoid	4	0	1	0		6	0	0	0	
Paratyphoid	3	0	0	3		6	1	0	0	
Food-poisoning	298	25	33	0		215	29	30	4	
Infective enteritis or diarrhoea under 2 years				11	28				19	38
Measles*	1,558	49	13	26	10	1,156	46	25	2	8
Meningococcal infection	14	1	10	0		14	3	16	0	1
Ophthalmia neonatorum	18	2	3	0		20	4	4	0	1
Pneumonia†	108	5	77	3		122	3	92	3	1
Poliomyelitis, acute:										
Paralytic	17	0	0	} 0	3	{ 5	1	0	} 0	2
Non-paralytic	9	1	0			{ 7	0	0		
Puerperal fever§	164	31	14	0		176	30	8	1	
Scarlet fever	159	13	24	11	8	166	15	35	15	11
Tuberculosis:										
Respiratory	332	37	40	5		357	55	48	11	
Non-respiratory	32	6	11	4		47	5	10	2	
Whooping-cough	277	23	35	10	14	1,376	120	141	4	13

DEATHS	1961 Eng. & Wales	1961 Lond.	1961 Scot.	1961 N. Ire.	1961 Eire	1960 Eng. & Wales	1960 Lond.	1960 Scot.	1960 N. Ire.	1960 Eire
Diphtheria	0	0	0	0	0	0	0	0	0	0
Dysentery	0	0		0		1	1		1	
Encephalitis, acute		1			0		0			0
Enteric fever	0	0	0	0		0	0	0	0	
Infective enteritis or diarrhoea under 2 years	6	0	1	0	0	5	0	0	0	0
Influenza	3	0	0	0	0	5	0	0	0	0
Measles		0	0	0	0		0	0	0	0
Meningococcal infection		0	0				0	0		
Pneumonia	347	28	12	6	8	353	17	10	9	1
Poliomyelitis, acute	2	0		0	0	1	1		0	0
Scarlet fever		0	0	0	0		0	0	0	0
Tuberculosis:										
Respiratory	} 45	{ 6	} 1	{ 1	1	} 56	{ 3	2	0	0
Non-respiratory		{ 1		{ 0	1		{ 0	0	0	1
Whooping-cough	0	0	0	0	0	1	0	0	0	0
Deaths 0–1 year	304	31	14	6	5	276	34	30	3	6
Deaths (excluding stillbirths)	8,319	709	474	94	105	8,349	665	507	88	139
LIVE BIRTHS	15,388	1425	1042	262	322	14,666	1284	953	249	426
STILLBIRTHS	314	20	23			272	22	23		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Medical News

Karolinska Institute Honours Paediatric Surgeons' Association

During the recent visit of the British Association of Paediatric Surgeons to Stockholm Mr. DAVID WATERSTON, the president, was asked to give a lecture at the Karolinska Institute on "Techniques in Paediatric Surgery," and was presented with the medal which had been struck to commemorate its 150th anniversary. This was done to indicate the high esteem in which he and the association of which he is president are held in Sweden, and as a token of the close ties which have bound the paediatricians and paediatric surgeons of both countries ever since the British Paediatric Association went to Stockholm for its first visit abroad after the end of the last war.

International Medical Students Elect British President

Mr. JOHN A. H. BOOTES (St. Bartholomew's Hospital), who is the president of the British Medical Students' Association, was recently elected president of the International Federation of Medical Student Associations at the General Assembly in Israel. Mr. Bootes has been an executive member of the International Federation for some two years, during which time he has edited its journal *Intermedica*. This international body concerns itself principally with the exchange of medical students among its 28 member countries. More than 2,000 students take the opportunity each year of spending a month's clinical appointment in a hospital in a country other than their own. The Federation also supports relief by collecting drugs and food supplements on behalf of refugee students in various parts of the world. Next year's programme in this field will include help to students in Vietnam, Thailand, Korea, North Africa, and Basutoland.

Royal College of Obstetricians and Gynaecologists

Mr. ARTHUR C. H. BELL, P.R.C.O.G., paid tribute at the College's Annual Dinner at the Dorchester Hotel, London, on September 22 to the devoted work of Miss W. E. MALLON, secretary to the College. Miss Mallon, who was appointed secretary when the College was founded 32 years ago, is retiring. She is to be succeeded by the assistant secretary, Miss A. M. HOLLOWAY. The Minister of Health, Mr. ENOCH POWELL, was the principal guest and proposed the toast of the College. He praised it for its co-operation in the confidential inquiries which began in 1952 into maternal deaths, and said that in no other specialty was there at present anything comparable with this co-operative and voluntary exercise in self-criticism which attempted to ascertain and expose the causes of failure. The PRESIDENT, in replying, said that the College would shortly be issuing a report on the part general practitioners should play in the maternity services. He believed that they should have responsibility for their own cases in hospital.

Gairdner Foundation Awards

Among the five medical research workers chosen to share the $25,000 Gairdner Foundation awards for 1961 are Sir RUSSELL BROCK, honoured for his work in heart surgery, and Professor J. H. KELLGREN, for his investigations in rheumatoid arthritis.

Royal National Institute for the Blind

In its annual report the Royal National Institute for the Blind points out that 12,000 names are added annually to the register of blind persons—a total increase of about 3,000 each year. The Institute also comments that though fewer children are being born blind a greater proportion now have one or more additional mental or physical handicaps; centres are being opened to help these children. In the year ended March 31, 1961, the Institute spent £1,472,556: £343,161 on rehabilitation, training, and employment; £286,135 on the education of children and young people; £266,637 on Braille, apparatus, and talking books; £227,836 on payments to other societies; £224,706 on capital expenditure, assistance, and miscellaneous charges; and £124,081 on residential and holiday homes and hostels. A record total of nearly 670,000 Braille magazines, periodicals, and volumes was printed, and nearly 1,000 textbooks were added to the Students' Library. A new method of printing music for the blind was adopted during the year. A map showing in bold relief the main central London bus routes will shortly be put into production.

Glasgow Royal Infirmary Closes Ward

Glasgow Royal Infirmary has had to close a surgical ward of 22 beds because of shortage of nurses. Mr. W. M. MACKINLAY, vice-chairman of the hospital's board of management, who was speaking to Glasgow Rotary Club, attributed the general shortage of nurses to the greater diversity of modern treatment; an increase in specialization; the shorter hours nurses are now working; and the decrease in the intake of student nurses. The Infirmary hopes that the surgical ward will be reopened by the end of the year.

American Thyroid Association's Van Meter Prize Award

The American Thyroid Association Inc. offers the Van Meter Prize Award of $500 for the best manuscript of original and unpublished work on "Goiter—Especially its Basic Cause." The studies so submitted may relate to any aspect of the thyroid gland in all its functions in health and disease. Details may be obtained from the Secretary, Dr. T. WINSHIP, 430 North Michigan Avenue, Chicago 11, Illinois, U.S.A., to whom manuscripts should be sent by January 1, 1962.

Lalor Foundation Awards

The Lalor Foundation is offering a programme of awards for 1962 for research on the fundamental biochemical and physiological mechanisms concerned with fertility and the early stages of reproduction in various forms of life. Details may be obtained from the Lalor Foundation, 4400 Lancaster Pike, Wilmington 5, Delaware, U.S.A., to which applications should be returned by January 15, 1962. Notification of appointment will be on or before March 15.

Casualty and Accident Departments in Scotland

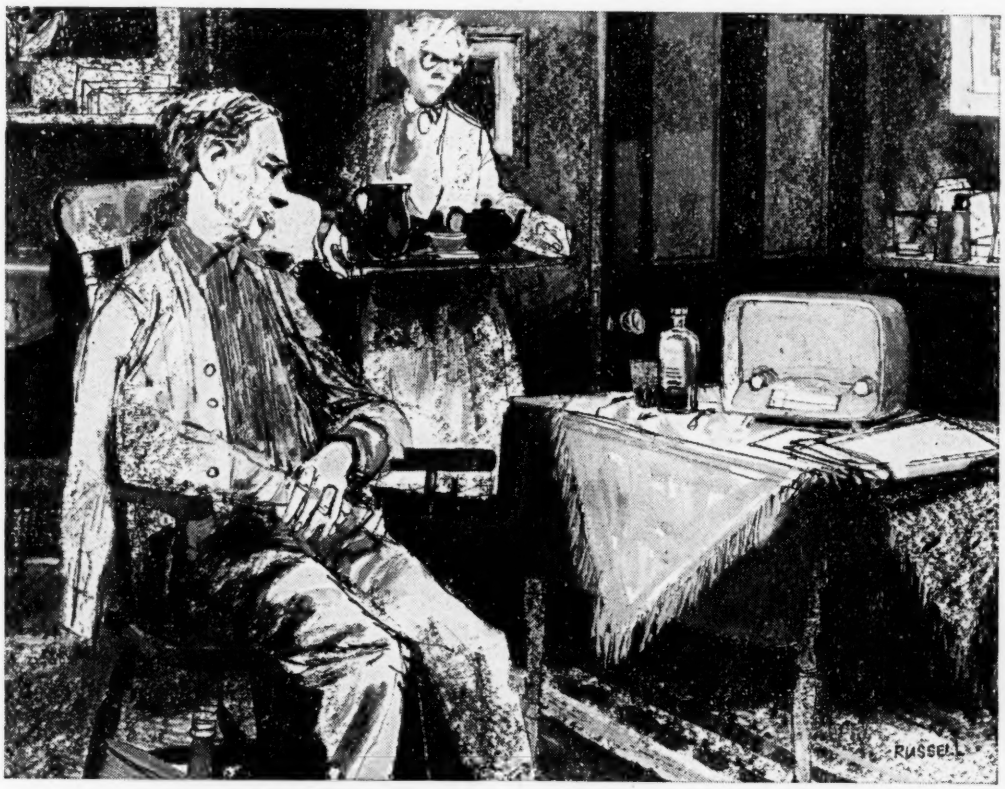
The Department of Health for Scotland has issued a report on the provision and design of casualty and accident departments to assist hospital authorities, medical planners, and architects in planning new departments of this kind. It is based on studies carried out by the Hospital Development Unit and the Work Study Group of the Department of Health, and is one of a series of planning notes being issued to hospital authorities in Scotland. (H.M.S.O., price 4s.)

Change of Name

The Dental and Medical Society for the Study of Hypnosis and Hypnotherapy has changed its name to the Society for Medical and Dental Hypnosis.

In Brief

A new neurosurgical unit with 135 beds is to be built in Glasgow at a cost of £500,000. It will be attached to the Southern General Hospital and will replace Killearn Hospital, which is 18 miles out of the city, as the main



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Brit. med. J., 1960, *ii*, 1695.

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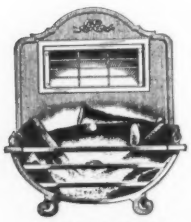

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"Family Doctor"

The October issue of *Family Doctor* is now on sale, price 1s. 6d. It contains articles on absenteeism, by Dr. K. C. HUTCHIN; on methods of examining the internal organs of the body, by Dr. N. GARWOOD; on the age of uncertainty—round about three, by Professor R. S. ILLINGWORTH; on gastrectomy, by Sir CECIL WAKELEY; on psychopaths, by Dr. C. SWAN; and on homosexuality, by Dr. E. CHESSER.

People in the News

▶ Professor K. MATHER, professor of genetics and pro-vice-chancellor of Birmingham University, has been appointed a member of the academic planning board which is to consider the scope and character of the new University of Kent.

▶ An Australian doctor, Dr. JOHN MORRIS, aged 38, is flying a 28-year-old twin-engined Monospar aircraft from Sydney to London and Dublin. Dr. Morris, who is accompanied by a navigator, has been planning the flight for five years and hopes to do postgraduate medical work at Dublin University. He has taken five weeks to reach Cyprus, and plans fuelling stops at Rhodes, Athens, Brindisi, Rome, Nice, Marseilles, and Paris before reaching London on October 1.

Journals for the Aghia Sophia Children's Hospital in Athens should not be sent to B.M.A. House, but direct to the hospital itself, as requested in the *Journal*, August 5, p. 395.

COMING EVENTS

West End Hospital for Neurology and Neurosurgery.—Clinical demonstrations in neurology, open free of charge to medical practitioners and medical students. Tuesdays, 5.30 p.m., September 26–December 5. Details each week in "Societies and Lectures" section of *B.M.J.* Inquiries to Secretary of Medical School at 91 Dean Street, London W.1.

Institute of Dermatology.—Semi-permanent exhibition, October 2–26, by Dr. H. HABER on "Histology of Normal Skin," St. John's Hospital for Diseases of Skin, Lisle Street, Leicester Square, London W.C.2.

European Congress on Education, Training and Employment of the Mentally Handicapped.—London, October 2–4, County Hall, Westminster Bridge, London S.E.1; The Hague, October 5–6. Details from National Society for Mentally Handicapped Children, 125 High Holborn, London W.C.1.

Cambridge Medical Society.—Dinner, Gonville and Caius College, October 4, 7.15 p.m. Tickets (50s.) from C.M.S., 22 Parkside, Cambridge.

North of England Otolaryngological Society.—Annual and ordinary meeting, October 7, 2 p.m., Wakefield. Honorary Secretary, Mr. W. L. ROWE, 38 Huddersfield Road, Barnsley.

Fifth Gale Memorial Lecture, South-west England Faculty Board, College of General Practitioners.—Dr. R. N. CURNOW, "Trends in the Mental Health Services," October 7, 8 p.m., Town Hall, Truro.

Irene Kohler Recital.—In aid of London Rotary Club's Fund for Mr. Pastry's Swimming Pools for Crippled Children, October 8, 3 p.m., Royal Festival Hall. Tickets from hall, Ibbs and Tillett Ltd., and ticket offices.

British Hospitals Contributory Schemes Association.—Conference, October 12, 2.30 p.m., Cliffs Hotel, Blackpool. Address: Lord COHEN OF BIRKENHEAD. Details from Conference Secretary, c/o Bolton and District Hospital Saturday Council, 16 Silverwell Street, Bolton.

Royal Society of Tropical Medicine and Hygiene.—Opening meeting, October 12, 7.30 p.m. Presidential address: Sir GEORGE MCROBERT, "From Empire to Commonwealth."

Society for Music Therapy and Remedial Music.—Conference, "Music Therapy in Hospitals and Hospital Schools," October 14, 10 a.m.–5 p.m., Royal Academy of Music, Marylebone Road, London N.W.1. Speakers include Dr. H. ROLLIN (Horton Hospital). Fee 7s. 6d. Lunch available. Details from Honorary Secretary, Miss JULIETTE ALVIN, 6 Westbourne Park Road, London W.2.

Professional Nurses and Midwives Conference and London Nursing Exhibition.—Under auspices of *Nursing Mirror*, October 16–20, Seymour Hall, Seymour Place, London W.1. Free tickets for professional visitors from London Nursing Exhibition, Dorset House, Stamford Street, London S.E.1.

Chest and Heart Association.—Symposium, "The Eradication of Tuberculosis in Childhood," October 18, 2–5.30 p.m., Cuthbert Wallace Theatre, Royal College of Surgeons, Lincoln's Inn Fields, London W.C.2. Chairman: Professor F. R. G. HEAF. Details and tickets (21s.) from C.H.A., Tavistock House North, Tavistock Square, London W.C.1.

Harveian Society.—Dr. J. A. SCOTT, Miss A. B. READ, A.M.I.A., "Social Services in Illness," October 18, 8.15 p.m., 11 Chandos Street, London W.1.

Queen's Institute of District Nursing.—Annual meeting, October 19, 2.20 p.m., Edward Lumley Hall, Royal College of Surgeons of England, Lincoln's Inn Fields, London W.C.2. Address by Mr. ENOCH POWELL, Minister of Health.

Stoke Mandeville Hospital. — Refresher course in dermatology for general practitioners, October 20–22, at Stoke Mandeville Hospital, Aylesbury. Details from Dr. D. S. WILKINSON, Royal Buckinghamshire Hospital, Aylesbury.

Institute of Urology.—Course, "Urology for Higher Examinations," October 20 to 22. See advertisement p. 48.

University of St. Andrews Dental Alumnus Society.—Clinical meeting, October 21, 9.30 a.m.–12.30 p.m., Electrical Engineering Theatre, Queen's College, Dundee. Speakers: Dr. VICTOR GOLDMAN, "The Modern Outlook in General Anaesthesia in Dentistry"; Mr. N. L. ROWE, "Extra-oral and Intra-oral Techniques in Surgery of the Mandible." Details from Mr. L. B. Stephen, 134 Albert Street, Dundee.

Conference on General Practice.—Organized by *Medical World*, October 22, 10 a.m., Victoria Halls, Bloomsbury Square, London W.C.1. Sessions: "G.P. Relations with Hospitals"; "The Role of the Ministry of Health"; "The G.P. and the Pharmacist"; "The G.P. and the Health Visitor." Display of medical information, 9.30 a.m. to 6 p.m. Admission by ticket from *Medical World* Conference, 56 Russell Square, London W.C.1.

National Association for Mental Health (Northern Branch).—Conference, "Back to Work: the Employment of the Mentally Disordered," October 26 and 27, Lounge Hall, Royal Baths, Harrogate. Details and tickets from the Northern Secretary, N.A.M.H., 9 Mount Preston, Leeds 2.

Medical Committee Against Racial Discrimination in South Africa.—Annual open meeting, October 26, 8 p.m., B.M.A. House, Tavistock Square, London W.C.1.

University College Hospital Medical School.—Annual dinner of past and present students, October 27, 7 p.m., Savoy Hotel, Strand, London W.C.2. Chairman: Dr. W. N. GOLDSMITH. Tickets (36s. each) from Honorary Secretary, Old Students' Association, University College Hospital Medical School, University Street, London W.C.1. Also postgraduate demonstrations.

B.M.A. Mid-Essex Division and Chelmsford Medical Society.—Week-end symposium, "Hypertension and Vascular Disease," October 27–29, at Chelmsford and Essex Hospital and Broomfield Hospital. Speakers: Dr. G. S. C. SOWRY, "The Nature of Essential Hypertension"; Professor

W. S. PEART, "The Nature of Renal Hypertension"; Dr. M. HAMILTON, "Indication for Blood Pressure Reduction"; Professor J. MCMICHAEL, "The Methods and Results of Treatment of Hypertension"; Professor J. N. MORRIS, "Pathogenesis of Coronary Thrombosis"; Dr. J. F. GOODWIN, "Treatment and Prognosis of Coronary Thrombosis"; Professor J. MCCLURE BROWNE, "Significance of Toxaemia and Hypertension in Pregnancy"; Mr. D. B. BROWN, "Treatment of Pregnancy Toxaemia." Discussions and social programme. Details from Dr. K. O. GEORGE, 2 West Square, Maldon, Essex.

NEW ISSUES OF SPECIALIST JOURNALS

The journals listed below are obtainable from the Publishing Manager, B.M.A. House, Tavistock Square, London W.C.1.

ANNALS OF THE RHEUMATIC DISEASES

Hereditary Factors in Rheumatoid Arthritis and Ankylosing Spondylitis. J. J. de Blécourt, the late A. Polman, and T. de Blécourt-Meindersma.
Digital Arteritis in Rheumatoid Disease. J. T. Scott, D. O. Hourihane, F. H. Doyle, R. E. Steiner, J. W. Laws, A. St. J. Dixon, and E. G. L. Bywaters.
Epidemiology of the Sheep Cell Agglutination Test. J. Ball and J. S. Lawrence.
Pituitary Corticotrophin (ACTH) Production in Rheumatoid Arthritis Tested Indirectly with Metopiron (Su 4885). J. L. Kalliomäki, N. T. Kärki, H. A. Saarimaa, and E. Tala.
Sacro-iliac Joint in Adult Rheumatoid Arthritis and Psoriatic Arthropathy. A. St. J. Dixon and E. Lience.
Tissue Iron and the Reticulo-endothelial System in Rheumatoid Arthritis. D. L. Gardner and L. M. H. Roy.
Immuno-electrophoretic Analysis of Proteins in Serum and Synovial Fluid in Rheumatoid Arthritis and Ankylosing Spondylitis. Stefan Mackiewicz and Wladyslaw Fenrych.
Treatment of Rheumatoid Arthritis by Intramuscular Triamcinolone Acetonide and Triamcinolone Diacetate. Jack Zuckner.
Simple Determination of the L.E. Factor. F. Van Soeren.
An Unusual Clinical Recovery from Systemic Lupus Erythematosus. G. A. Rose.
Book Reviews.
Empire Rheumatism Council.
Heberden Society.
New York Rheumatism Association.
Obituary: Anibal Ruiz Moreno, 1907-60.
Abstracts.

Volume 20, No. 3. (Quarterly; £3 annually.)

JOURNAL OF CLINICAL PATHOLOGY

The Artificial Kidney and Urea Clearance. D. J. Blackmore and W. J. Elder.
A New Principle Applied to the Determination of Calcium in Biological Materials by Flame Photometry. J. K. Fawcett and V. Wynn.
Estimation of Gamma Globulin in the Serum of Patients with Hypogammaglobulinaemia. R. A. Kekwick, L. Vallet, M. Cutbush, P. L. Mollison, A. R. Thomas, P. G. H. Gell, and J. F. Soothill.
The Antithrombin Activity of Glucuronic Esters of Bilirubin. M. Kopeć, T. Darocha, S. Niewiarowski, and J. Stachurska.
Studies on the Disturbance of Glucuronide Formation in Infectious Hepatitis. M. F. Vest and E. Fritz.
Rapid Incremental Methods for the Determination of Serum Iron and Iron-binding Capacity. R. N. Beale, J. O. Bostrom, and R. F. Taylor.
Lipids in Cadaver Sera after Fatal Heart Attacks. J. B. Enticknap.
Serum Alkaline Phosphatase Fractionation as an Aid to Diagnosis. K. B. Cooke and Joan F. Zilva.
The Determination of 3-Methoxy 4-hydroxy Mandelic Acid in Urine. A. J. Woiwod and R. Knight.
Factors Concerned in the Efficient Steam Sterilization of Surgical Dressings. R. J. Fallon.
A Case of Meningitis Due to *Listeria monocytogenes*. A. Beck.
Disinfection of Woollen Blankets in Steam at Sub-atmospheric Pressure. V. G. Alder and W. A. Gillespie.
Nasal Abnormality and the Carrier Rate of *Staphylococcus aureus*. S. I. Jacobs, G. M. Williamson, and A. T. Willis.
A Contribution to the Technique of Intracutaneous Testing with Toxoplasmin. Otto Jírovec and Jindřich Jíra.
Antistreptolysin Levels in Normal Infants and Young Children. C. W. Potter and J. Lorber.
Fatal Septicaemia due to *Salmonella cholerae suis*. I. S. Bailey, G. Garrett, and A. Nicol.
Serum Precipitin Reactions in Hashimoto's Thyroiditis. J. M. Moore.
Minimal Criteria for the Diagnosis of Megaloblastic Anaemia of Pregnancy. I. Rannie and H. McTaggart.
Antihaemophilic Factor Deficiency, Capillary Defect of von Willebrand Type, and Idiopathic Thrombocytopenia Occurring in One Family. E. K. Blackburn, J. M. Macfie, J. H. Monaghan, and A. P. M. Page.
Coagulation Tests on Capillary Blood. Katharine M. Dormandy and R. M. Hardisty.
The Anaemia of Lead Poisoning. H. E. Hutchison and J. M. Stark.
The Recognition of Hageman Deficiency in Blood Donors. W. L. Marsh and J. Jenkins.
Renal Enlargement in Chronic Cor Pulmonale. P. A. Ellis.
Technical Methods:
- **A Contact Slide Method for the Isolation of Staphylococci.** I. A. Porter and Joyce Nicholson.
- **A Micro-method for Measuring Glucose Using the Autoanalyzer and Glucose-oxidase.** Cynthia Wincey and Vincent Marks.
- **A Micro Technique for Protein Concentration Suitable for Quantitative Electrophoresis of Cerebrospinal Fluid.** J. Colover.
- **The Iron Method of Haemoglobin Estimation.** J. Fine.

Book Reviews.

Volume 14, No. 5. (Bi-monthly; £4 4s. annually.)

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday, October 2

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—7.30 p.m., Dr. B. Berde (Basle): Chemistry and Pharmacology of the Posterior Pituitary Hormones. A discussion will follow.

Tuesday, October 3

INSTITUTE OF NEUROLOGY.—5.30 p.m., Professor R. B. Aird (California): The Corpus Callosum and Focal Epilepsy in Man.
● INSTITUTE OF OBSTETRICS AND GYNAECOLOGY.—At Hammersmith Hospital, (1) 2 p.m., Professor D. B. Stewart (West Indies): The Hazards of Grand Multiparity. (2) 3 p.m., Professor R. A. Willis: Teratomas, with special reference to their Gynaecological and Obstetric Interest.
INSTITUTE OF OBSTETRICS AND GYNAECOLOGY.—At Queen Charlotte's Maternity Hospital, 8.30 p.m., general practitioners' lecture-discussions: Dysmenorrhoea.
LONDON UNIVERSITY UNION SOCIALIST SOCIETY MEDICAL GROUP.—7 p.m., Dr. S. Leff: Reasons for National Health Service.
ROYAL ARMY MEDICAL COLLEGE.—5 p.m., Mr. C. J. Hodson: Obstruction and Reflux in the Urinary Tract.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 p.m., Hunterian Lecture by Professor C. Q. Henriques: The Veins of the Vertebral Column and their Role in the Spread of Cancer.
WEST END HOSPITAL FOR NEUROLOGY AND NEUROSURGERY.—5.30 p.m., Dr. J. N. Milnes: clinical demonstration in neurology.

Wednesday, October 4

INSTITUTE OF DERMATOLOGY.—5.30 p.m., Dr. H. Haber: Histology of Normal Skin.
INSTITUTE OF DISEASES OF THE CHEST.—5 p.m., Sir Russell Brock: Chest Injuries.
INSTITUTE OF UROLOGY.—4.30 for 5 p.m., Mr. Harland Rees: Increased Frequency of Micturition.
POSTGRADUATE MEDICAL SCHOOL OF LONDON.—2 p.m., Professor Charles Gray: Chemical Pathology in Modern Medicine.

Thursday, October 5

BRITISH GERIATRICS SOCIETY: SOUTH WALES GROUP.—At St. David's Hospital, Cardiff, 7.30 p.m., Dr. W. Phillips: Diagnostic and Prognostic Problems in the Elderly.
ROYAL SOCIETY OF HEALTH.—At Council Chamber, City Hall, Norwich, 10.15 a.m., Dr. J. V. Morris: Changes in Practice in Relation to Mental Subnormality; Dr. J. W. Beattie: Promotion of Full Health in the Elderly.
SOCIETY FOR MEDICAL AND DENTAL HYPNOSIS.—At Royal Society of Medicine, 8 p.m., medical conference.

Friday, October 6

ANGLO-AMERICAN MEDICAL SOCIETY (LONDON GROUP).—At Royal College of Surgeons of England, 8 p.m., guest speaker, Mr. A. Dickson Wright.
INSTITUTE OF DISEASES OF THE CHEST.—5 p.m., Dr. J. Smart: clinical demonstration.
LONDON UNIVERSITY.—At University College Hospital Medical School, 5.30 p.m., special university lecture in medicine by Dr. B. Berde (Basle): Some Physiological and Pharmacological Aspects of Oxytocin.
POSTGRADUATE MEDICAL SCHOOL OF LONDON.—(1) 10 a.m., Mr. J. Hopewell: Kidney Storage; (2) 4 p.m., Professor M. D. Milne: Abnormalities of Potassium Metabolism.
SOCIETY OF CHEMICAL INDUSTRY: FINE CHEMICALS GROUP.—At the Auditorium, Wellcome Building, Euston Road, N.W., 2.45 p.m., subject: Approaches to the Chemotherapy of Virus Diseases. Papers by Dr. A. Isaacs, Dr. R. Hull and Dr. Weston Hurst, Dr. P. W. Sadler, and Dr. D. J. Bauer.
WHIPPS CROSS HOSPITAL MEDICAL SOCIETY.—8.30 p.m., Mr. S. G. Nardell: A Surgeon's Visit to Sweden.

Saturday, October 7

● COLLEGE OF GENERAL PRACTITIONERS: SOUTH-WEST ENGLAND FACULTY BOARD.—At Town Hall, Truro, 8 p.m., Fifth Gale Memorial Lecture by Dr. R. N. Curnow: Trends in the Mental Health Services.
NORTH OF ENGLAND OTOLARYNGOLOGICAL SOCIETY.—At Wakefield, 2 p.m., annual and ordinary meeting.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Briffa.—On September 18, 1961, at the Weir Maternity Hospital, London S.W., to Drs. Dorothy (formerly Burgess) and J. V. Briffa, a daughter.
Lamont.—On September 12, 1961, to Margaret (formerly Sadler), wife of Dr. Dennis Lamont, of Ambrose Avenue, Colchester, Essex, a son—John Anderson.

DEATHS

Anderson.—On September 11, 1961, at Stirling, Stuart Milton Anderson, M.R.C.S., L.R.C.P., of Beaconsfield, Bucks.
Cairncross.—On September 6, 1961, at 62 Holland Park, London W., James Cairncross, M.B., Ch.B., late of Dunfermline, aged 76.
Drew.—On September 7, 1961, Albert John Kingman Drew, M.R.C.S., L.R.C.P., of Coombe Mavis, Culverden Down, Tunbridge Wells, Kent, late of Ramsgate, Kent.
Edwards.—On September 3, 1961, at York, Phyllis Milburn Edwards, M.D., of Wooden Walls Brisco, Carlisle, Cumberland.
Evans.—On September 1, 1961, at 38 Clarence Road, Chesterfield, Thomas Richard Evans, M.D., aged 78.
Imrie.—On August 31, 1961, at Cymla Chest Hospital, Neath, Glamorgan, Thomas Imrie, M.B., Ch.B., of "The Elms," Briton Ferry.
Nicholson.—On September 4, 1961, Stanley Sewell Nicholson, M.B., Ch.B., of Worthing, Sussex.
Roberts.—On September 2, 1961, in hospital, Augustus Alphonso Roberts, M.B.E., M.B., Ch.B., B.Sc., of 1 Otley Old Road, Leeds 16, aged 76.
Scannell.—On September 4, 1961, in hospital, Jerome Fitzpatrick Scannell, M.B., Ch.B., of 72 Gowthorpe Street, Selby, Yorkshire.
Williams.—On September 4, 1961, at his home, Elmswood, Tywardreath, Par, Cornwall, Frank Geoffrey Williams, M.B., Ch.B., D.T.M.&H., late of Wolverhampton, Staffs, and Nigeria.

Any Questions ?

We publish below a selection of those questions and answers which seem of general interest. It is regretted that it is not possible to supply answers to all questions submitted.

Eating Before Running

Q.—*What dietary regulations in general should be followed by a medium-distance runner aged 18 weighing 9 stones (57.2 kg.) and 5 ft. 8 in. (1.7 m.) in height? How long before a race should the last meal be taken, and is glucose by mouth just before the race a good thing?*

A.—Most of the dietetic fetishes, traditions, and prejudices of the early days of athletic training have been abolished by experience and the teaching of modern physiology and superseded by common-sense principles.[1] At one time articles of diet were classified as good or bad "for the wind," as containing principles that could influence respiratory depth, force of the heart beat, or vigour of the circulation. Nowadays the vast majority of athletes have realized that the part played by diet in preparation for physical efficiency is insignificant. The best advice is to follow Nature as a guide and to eat and drink according to appetite and inclination. There is no foundation for belief in specific athletic properties in any foodstuff.

Athletes display remarkable variability in their choice of the meal preceding a contest. One limits himself to a couple of raw eggs, another to a bowl of soup, a third to a number of oranges, and one very great runner indulges in a large steak, vegetables, and a pint of stout. The episode is often quoted of the boy who won the Crick run (12 miles cross-country) at Rugby in record time who had lunched an hour and a half previously on two large helpings of Irish stew and two of treacle pudding. In general terms, the meal should be dictated by personal experience of what the individual has found to permit of extreme exertion with the minimum of alimentary discomfort. Competition must take place between the contracting muscles and the organs of digestion in their circulatory demands, and, although, as I have mentioned, athletes display great variability, the wisest plan is to eat as little as possible at least during the two hours before the race.

It is fully recognized that carbohydrate is the best provision for physical exertion, and the idea has arisen that sugar can act as a sort of explosive capable of providing immediate energy—a belief sustained by the advertisements of enterprising manufacturers of glucose preparations. It is true that cane sugar must before absorption be converted into the monosaccharide, but rapidity of hydrolysis hardly justifies a preference for glucose because of superiority in absorption. The practice is at all events harmless, and its suggestive value is not to be ignored.

REFERENCE

[1] Abrahams, A., *Practitioner*, 1961, **187**, 182.

Stilboestrol and Mammary Carcinoma

Q.—*A woman aged 54, who has had children and has lactated, has been taking stilboestrol 0.5 mg. daily for about five years for menopausal symptoms. She still gets hot flushes when the treatment is stopped. Is there any danger of stilboestrol therapy in this case causing carcinoma of the breast?*

A.—It is not surprising that this patient, having taken stilboestrol 0.5 mg. daily for five years, should still get hot flushes when the treatment is stopped. The dose is too high, the treatment should have been discontinuous (interrupted for 10 to 14 days after 28 days), and it should not have been allowed to go for anything like so long. It should now either be stopped altogether, a small dose of sedative being substituted if necessary, and the patient told she must put up with the hot flushes, or, if this seems too harsh, the dose of stilboestrol should be reduced to 0.2 mg. daily, given as indicated above, and still further reduced, and finally stopped, as fast as the patient's condition permits.

It is not possible to say whether the treatment the patient has already had might lead to mammary carcinoma. Such a possibility cannot simply be denied, though the evidence available lends little support to it.

Royal Jelly for Leukaemia

Q.—*The mother of a small child with acute leukaemia has read in a newspaper that a Dr. Maurice Gautrelet, working in France, has had encouraging results in the treatment of this disease with queen-bee jelly. Is there any foundation for these claims?*

A.—The use of royal jelly is presumably based on the report of Grad, Kral, and Berenson[1] that administration affected the survival of mice injected with transplanted lymphatic leukaemia; the mice were of a strain highly susceptible to leukaemia. Relatively large doses of jelly shortened the life-span of the mice, but a smaller dose was claimed to prolong the life-span. Dr. Gautrelet has not so far published the results of treatment of human lymphatic leukaemia with royal jelly in any of the usual journals, and may not be ready to do so. Since acute leukaemia in children is known to be normally liable to remissions and relapses a fair number of cases would need to be studied and followed for two or so years.

REFERENCE

[1] Grad, B., Kral, V. A., and Berenson, J., *Canad. J. Biochem. Physiol.*, 1961, **39**, 461.

Anaemia Associated with Chronic Nephritis

Q.—*Is blood transfusion of any value in the treatment of the anaemia associated with chronic nephritis?*

A.—Blood transfusion is of limited value in the treatment of anaemia associated with chronic nephritis. It seldom improves renal function, but it does improve the patient's general condition and sense of wellbeing. The procedure, however, is not without risk, particularly if the elimination of potassium is impaired. The amount of potassium present in the transfused blood is quite considerable and may cause dangerous hyperkalaemia. In addition, overloading of the circulation may precipitate left ventricular cardiac failure. Transfusions are used but must be given cautiously.

Nocturnal Tongue-biting

Q.—*What could be the cause of nocturnal tongue-biting in a girl aged 22? She has no abnormality in her mouth, and her teeth are sound.*

A.—Tongue-biting is a form of habit activity not uncommon in adolescents and young adults. It is frequently nocturnal, and the patient is not always aware of its occurrence. It may well follow other habits which have been given up such as digit-sucking or nail-biting, or may be associated with this. It tends to be aggravated under stress.

Treatment is rather unsatisfactory. Mild sedation, particularly if indicated by the patient's general condition, may help. Should the trauma to the tongue be sufficient to warrant it an internal oral screen could be fitted. This obviously will control the habit, which may, however, return when it is discarded.

Mosquito Repellent

Q.—*What is the best repellent for mosquitoes and what is the most efficient room-spray?*

A.—The best mosquito repellent, which has been extensively tested, is probably N.N-diethyl toluamide, and the next best is dimethyl phthalate (D.M.P.). However, the former is not widely available outside the U.S.A., whereas D.M.P. is easily obtained in this country, either undiluted or in formulations. Both can be applied directly to exposed skin (avoiding eyelids and mouth) and they keep off mosquitoes for some hours.

The most convenient room-sprays are the liquefied gas aerosol preparations in dispenser tins. These contain pyrethrins (for "knock-down") together with D.D.T. or another synthetic insecticide to ensure kill. It is not easy to specify the most efficient formula for killing mosquitoes, since the aerosol tests are usually made on houseflies. However, mosquitoes are generally more easy to kill than flies. An account of tests with some of the varieties of aerosol on sale in this country is given in the journal *Which?* [1]

REFERENCE

[1] *Which?* July, 1960, p. 157.

Death of a Toad

Q.—*My laboratory technician thinks from his observations that ketone bodies in urine kill toads in pregnancy tests. He mentioned this when a urine sent for such a test also showed a strongly positive Rothera test—as must fairly commonly happen when vomiting is occurring at such a time. In this case the toad duly died, though not before the test was completed. Has this observation been made before and proved or disproved?*

A.—Most research into the mortality of the various species of animal used for pregnancy tests has been directed to methods of purifying the urine injected rather than towards a precise investigation of agents producing toxicity. I do not know of any paper describing a correlation between the presence of ketone bodies in the urine for assay and mortality in the experimental animal. Certainly, however, the toad is particularly susceptible to the injection of solutions containing very small quantities of alcohol or acetone. It is therefore reasonable to infer that a urine which gives a positive Rothera test will be toxic if injected untreated. This toxicity may be expected to increase if there is any delay before injection, for acetoacetic acid converts to acetone when the urine is allowed to stand. One of the most informative papers on the subject is that of Scott,[1] who refers to the importance of removing from the urine "toxic substances from human metabolism." Scott's method of adsorption with kaolin at controlled *p*H followed by sodium hydroxide extraction of gonadotrophin is designed for this purpose, and gives good results.

REFERENCE

[1] Scott, L. D., *Brit. J. exp. Path.*, 1940, **21**, 320.

Food Regurgitation and Mental Defectives

Q.—*What is the best way to treat a mentally defective child who has become emaciated from continued regurgitation of all food?*

A.—The treatment of a mentally defective child who has become emaciated from continuous regurgitation of food does not differ from that of children who are not mentally defective but have similar symptoms. Mentally defective children are somewhat more likely to have abnormalities of the upper part of the alimentary canal—e.g., pharyngeal pouch. They also more commonly have diaphragmatic hernia. The presence of these causes of regurgitation should be ruled out by barium swallow or meal. It cannot be assumed in the absence of structural abnormality that regurgitation is the sole cause of emaciation in a severely retarded child. For example, a diplegic child may fail to gain weight with minimal regurgitation. A chronic inhalation pneumonia is often a feature in such cases and may partially account for failure to thrive.

Treatment of functional regurgitation depends on the age of the child. It may be necessary to resort to tube feeding in young infants. Feeds should be small in quantity and given often. With a spastic child patience is most important. He cannot swallow quickly. Often the mother is better at this than the busy nurse. Semi-solids may be easier for him than fluids. "Self-induced" regurgitation in an older child seldom leads to emaciation. If it does small frequent feeds are indicated. A small dose of chlorpromazine or other "tranquillizer" is sometimes helpful. 5–10 units of insulin twice daily or less according to age sometimes seems to help.

NOTES AND COMMENTS

Syringes for Intrathecal Injections.—Mr. A. GABRIEL (Shell Chemical Company Limited, London W.1) writes: In answering a question under this heading ("Any Questions?" August 12, p. 465) you stated that "'teepol' can cause a dermatitis and a good soap will not." This statement could well lead to undesirable and untrue conclusions. In the first place we would draw your attention to the fact that teepol is only a trade name under which a wide variety of chemically different products are sold. It is therefore quite incorrect to make a sweeping statement with reference to teepol, since it can chemically be quite different, depending on the particular grade in question. Surface-active agents, including the teepol range, when used in strong solutions may cause some dermatitic reactions in a few people who are sensitive, but this statement would be equally true of soap and a host of other commonly used household products. We consider that your statement that teepol can cause a dermatitis and a good soap will not is without foundation, and we have ample evidence on this point both from large-scale use experience and also from specific and independent tests. These show that the substance tested can be regarded as absolutely safe in normal use. We do, however, recognize that an occasional reaction may be encountered in an eczematic subject with a highly sensitive skin. This, however, can hardly be regarded as a fault of the detergent.

AN EXPERT writes: I think it must be accepted that soap, teepol, and all similar cleansers may cause, contribute to, or aggravate dermatitis. In this respect it is not at all certain that "good" soap is better than any other. How often skin irritation is due to these substances is a question about which expert opinion is considerably divided. Teepol, however, has been the subject of a fair amount of investigation and has not been shown to have irritant properties to any greater degree than most comparable substances. Indeed, there is some evidence[1] that teepol is less likely to irritate the skin than soap.

REFERENCE

[1] Bettley, F. R., and Donoghue, E., *Brit. J. Derm.*, 1960, **72**, 67.

Transverse Furrowing of Nails.—Dr. M. J. PURDY (Hamilton, New Zealand) writes: A further finding might be added here (see "Any Questions?" June 17, p. 1778). Beau's lines are sometimes seen distributed at regular intervals across the nails of females and appearing first some time after the menarche. The furrows continue their appearance for years. There are usually about five in finger-nails and two or three in toe-nails, and this suggests a relationship to the menstrual rhythm. There is not necessarily any menstrual abnormality.

Collected Articles from the "British Medical Journal"

The following books are available through booksellers or from the Publishing Manager, B.M.A. House. Prices, which include postage, are now the same for both inland and overseas.

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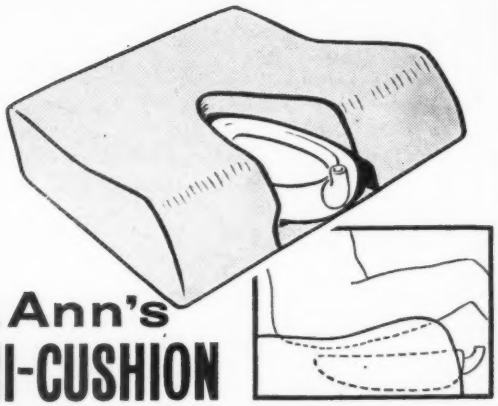

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F. A. H. SIMMONDS, M.A., M.D., D.P.H.

Physician and Medical Director, Clare Hall Hospital, Middlesex

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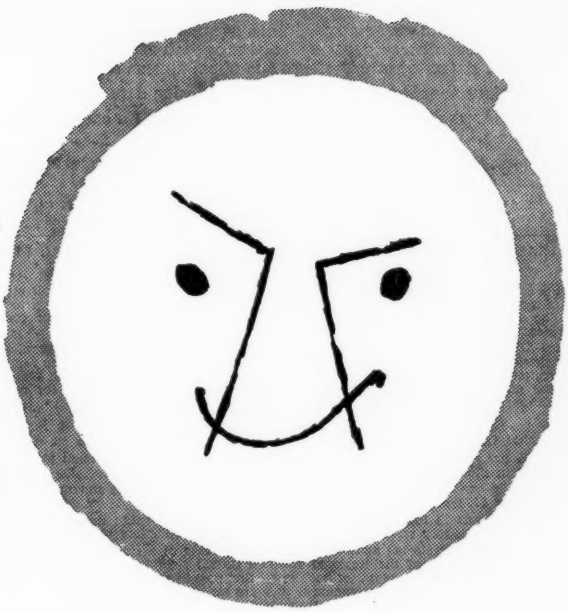

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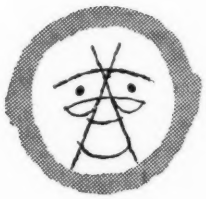

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose (unless otherwise specified) one copy each of 3 recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

House Officers should submit a separate application for each post for which they apply.

Canvassing of members of the Board or Advisory Appointments Committee will lead to disqualification (Statutory Instrument 1950, No. 1259, N.H.S.).

★ *SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than one year after full registration as a medical practitioner and held normally for two years: £1,250 in the first year; £1,400 in the second and any subsequent years. Deduction of £215 per annum for compulsory residence; £255 per annum for voluntary residence.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than three years after full registration and held normally for four years: £1,500 by £100 to £1,800 in the fourth year; thereafter, £1,900 in the fifth and sixth years; £2,000 in the seventh and eighth years; £2,100 in the ninth and any subsequent years. Deduction of £250 per annum for compulsory residence: £275 per annum for voluntary residence.

Other Grades, Whole-time

(*a*) *HOUSE OFFICERS:* Each post in this grade shall be tenable for six months.

£675 per annum for the first post held; deduction of £155 per annum for compulsory residence or £195 per annum for voluntary residence;

£750 per annum for the second post held; deduction of £160 per annum for compulsory residence or £195 per annum for voluntary residence;

£825 per annum for the third and any subsequent posts held; deduction of £165 per annum for compulsory residence or £195 per annum for voluntary residence;

provided that the employing authority (subject in the case of a Hospital Management Committee to the consent of the Regional Hospital Board) shall have discretion to determine that the remuneration of any officer holding his first post in the National Health Service as a House Officer shall be £750 per annum if they are satisfied that the officer has held at least one hospital post outside, of not less than six months' duration, involving clinical responsibilities equivalent to those of house posts in the National Health Service and supervised by appropriate specialist staff; provided further that where a House Officer has previously held two such outside posts the employing authority (subject in the case of a Hospital Management Committee to the consent of the Regional Hospital Board) shall have discretion to determine that his remuneration shall be £825 per annum. Any House Officer who on first appointment is paid at the appropriate rate to the second or third post held in accordance with the above provision shall be paid at the third post rate for any subsequent appointments in this grade.

(*b*) *SENIOR HOUSE OFFICERS:* Posts obtained by fully registered medical practitioners and held normally for one year only: £1,050 on appointment at age 27 or under; £1,100 on appointment at age 28 or over. Deduction of £180 per annum for compulsory residence or £215 per annum for voluntary residence.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICERS:* Officers who have held house appointments but who are not registrars and who have less responsibility than other hospital officers of non-consultant status, and who have been appointed for a limited or indefinite period, not less than one year after full registration as a medical practitioner: £1,100 by £60 (8) to £1,580. Deduction of £215 per annum for compulsory residence or £255 per annum for voluntary residence.

Allowances at rates of up to £100 per annum shall be payable to house officers, senior house officers, junior hospital medical officers and registrars occupying posts approved for such allowances in peripheral hospitals.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF (3/3/61)

CLASSIFICATION

and order of appearance

Practices
Partnerships
Assistantships
Trainee General Practitioners
Locums
Situations (Medical)
Industrial Appointments

APPOINTMENTS

including pre-registration under appropriate specialty headings, as follow:

Anaesthetics
Cardiology
Casualty
Chest and Tb.
Dermatology
Geriatrics
Infectious Diseases
Medicine
Neurology
Neurosurgery
Obstetrics and Gynaecology
Ophthalmology
Orthopaedics
Otolaryngology
Paediatrics
Pathology
Physical Medicine
Psychiatry
Radiology
Radiotherapy
Surgery
Urology
Venereology

in the following order: Consultants, Assistant Physicians and Surgeons, Clinical Assistants, Registrars, J.H.M.O.s, Senior House Officers, House Officers.

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Oversea
University and Research
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Please state type of vacancy and remit to the Advertisement Director, B.M.J.

For charges of CLASSIFIED ADVERTISEMENTS kindly refer to page 50

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

CROSS HILLS, near Keighley

Applications are invited for a general practice vacancy (due to retirement on December 31, 1961) at Cross Hills, situated in the Skipton Rural District. "Intermediate" area. Total list at present approximately 2,050. Rural practice, basic industry textile. Non-dispensing practice with some mileage. Further information regarding residential and surgery accommodation being obtained. Applications, on Form E.C.16A (obtainable from the undersigned), should be submitted not later than October 13, 1961, to B. England, Clerk, West Riding Executive Council, 5 St. John's North, Wakefield. (5918)

MIDDLESEX EXECUTIVE COUNCIL

VACANCY—TOTTENHAM

Applications invited for vacancy occasioned by resignation of male practitioner. List at present approximately 2,189. "Intermediate" area. Premises will be available. Apply, on Form E.C.16A, before October 7, 1961, to the Clerk, Middlesex Executive Council, North-West House, 119-127 Marylebone Road, London N.W.1. (5874)

DRIGHLINGTON, near Bradford

Applications are invited for vacancy (urban) due to resignation on December 31, 1961. "Intermediate" area. List at present approximately 2,800. Residential accommodation not available, but surgery premises may be available on rental. Applications, on Form E.C.16A (obtainable from the undersigned), should be submitted, not later than October 13, 1961, to B. England, Clerk, West Riding Executive Council, 5 St. John's North, Wakefield. (5975)

MIDDLESEX EXECUTIVE COUNCIL

VACANCY—TWICKENHAM

Applications invited for vacancy occasioned by resignation of male practitioner. List at present approximately 1,540. "Intermediate" area. Premises will be available. Apply on Form E.C.16A, before October 7, 1961, to the Clerk, Middlesex Executive Council, North-West House, 119-127 Marylebone Road, London N.W.1. (5919)

VACANCY
CHINGFORD, Essex

Applications invited for retirement vacancy. (Urban, Intermediate area.) List at present approximately 2,625. Residential and surgery accommodation may be available by purchase. Apply, on Form E.C.16A by first post on October 9, 1961, to the undersigned.—E. Bergdahl, Clerk of the Council, Essex Executive Council, 131/3 Fillebrook Road, Leytonstone E.11. (5936)

PRACTICES (Exchange)

CENTRAL ENGLAND, NON-INDUSTRIAL. Full list. Hospital, general and obstetric. Gross over £5,500. Would exchange for smaller list, London area or southern half of England.—Box PR.731, B.M.J.

PRACTICE EXCHANGE WANTED. DOCTOR, outer London residential suburb (Surrey), wishes to exchange practice for one in Cornwall, Devon or Somerset. Practice income N.H.S. £3,300, private £400.—Box PR.710, B.M.J.

PRACTICES (Wanted)

PRIVATE PRACTICE, OR PARTNERSHIP IN same, wanted. Principal for over 10 years large N.H.S. practice desires complete change. Must be by sea or water.—Box PR.732, B.M.J.

PARTNERSHIPS (Offered)

A UNIQUE OPPORTUNITY EXISTS FOR A young, keen, socially-conscious doctor to enter a new group practice in London if he is considered suitable by the three present principals after a short preliminary assistantship.—Box PA.734, B.M.J.

BIRMINGHAM. PARTNER, OF EITHER SEX, required in old-established practice. Furnished flatlet available.—Dr. Osborn, 615 Church Road, Yardley, Birmingham 33. STE 2893.

Partnerships (Offered)—contd.

BRITISH MALE MARRIED DOCTOR OFFERED Partnership after six months' assistantship at £1,500 per annum. N.E. Lancs, close to country. Previous experience welcome, but not essential. Excellent off-duty. Unfurnished house available.—Box PA.701, B.M.J.

IMMEDIATE SALARIED PARTNERSHIP IN S.E. Essex, 18 miles from London, in growing practice with three young energetic partners. Ex-trainee or ex-hospital, married man, with car preferred. Free recently decorated flat.—Box PA.604, B.M.J.

NORTH-EAST MIDLANDS EXPANDING progressive group practice with ancillary help, equal duty and holidays, requires fourth Partner after six months' preliminary assistantship at £1,500 per annum salary, with rent-free house. Parity after five years. Midwifery essential. Protestant. —Box PA.506, B.M.J.

NORTHOLT, MIDDLESEX. PARTNERSHIP after three months' assistantship. Share as partner approximately £2,000. Part-furnished semi-detached modern house.—Box PA.711, B.M.J.

PARTNERSHIP AFTER PRELIMINARY ASSISTANTSHIP offered W.R. Yorkshire. Remaining partner requires British male practitioner with obstetrical experience. Unfurnished accommodation available.—Box PA.746, B.M.J.

PARTNERSHIP IN THREE MONTHS AFTER assistantship. Either sex. Northumberland coast and country small practice. Ample off-duty. Succession in 1½ years. Practice increasing.—Box PA.747, B.M.J.

PARTERSHIP OFFERED AFTER SHORT PRELIMINARY assistantship. Genuine. South Yorkshire. Married or single. Must be keen and energetic. Partly furnished flat. Prospects excellent.—Box PA.613, B.M.J.

PARTNERSHIP, OFFERED AFTER SIX months' preliminary assistantship. Old-established South Yorks practice. Married man. House to purchase. Quarter share of about £3,000 at first. —Box PA.733, B.M.J.

PARTNERSHIP OFFERED BY SINGLE-HANDED West Midland practitioner after preliminary assistantship at £1,600 per annum, plus free furnished flat. Initial share worth about £2,300. To commence December.—Box PA.724, B.M.J.

THIRD PARTNER WANTED IN INDUSTRIAL practice in North after short assistantship. Salary by arrangement.—Box PA.735, B.M.J.

PARTNERSHIPS (Wanted)

PARTNERSHIP OR ASSISTANTSHIP, WITH view, required South Manchester, preferably Wilmslow, Cheadle or Altrincham. Advertiser is Manchester graduate with 18 months' hospital experience. Capital available for purchase of property.—Box PA.749, B.M.J.

PARTNERSHIP, PREFERABLY WITH SUCCESSION, sought northern half of Britain, rural or coastal, by male doctor, 33, married, D.Obst. R.C.O.G., six years' G.P. (industrial), College of G.P.s, interested research—finds present partnership not conducive.—Box PA.748, B.M.J.

PARTNERSHIP, WITH/WITHOUT SUCCESSION, required. Residential area. Ample capital available for house purchase.—Box PA.736, B.M.J.

ASSISTANTSHIPS VACANT

An Assistant will be required, November/December, by young principal, East Anglian town. Pleasant expanding practice. View to right man.—Box A.713, B.M.J.

An Assistant with view, list 1,500, after six months and scope up to 2,000 at least. Easily run semi-rural partnership in N.E. England. British applicants preferred.—Box A.722, B.M.J.

Assistant, female, with view, required in south-east coast town. Obstetric experience essential.—Box A.750, B.M.J.

Assistant, male, British, with view, required by Nottingham partnership. Obstetrics. Equal duty rota. No accommodation provided. Salary £1,500 per annum, plus £250 car allowance.—Box A.739, B.M.J.

Assistant required for Hampstead partnership practice. Excellent rota system. Salary by arrangement.—Box A.712, B.M.J.

Assistant required, large seaside town, South Devon. Experience not essential. Excellent leisure time. Comfortable flat provided, with garage. Married. Car owner. Salary by arrangement.—Box A.754, B.M.J.

Assistant required, male or female, Brighton area group practice. Experience in obstetrics an advantage.—Box A.643, B.M.J.

Assistant required, with definite view, by elderly doctor, North-West London. Single. Obstetrics preferred. Car owner. Salary by arrangement.—Box A.534, B.M.J.

Assistant required, with view to partnership, in Nottingham. Salary by agreement.—Box A.642, B.M.J.

Assistant wanted, male or female, single, view on retirement of senior partner. £1,400 plus £200 car.—Apply Briggs, The Court House, Caerphilly, Glam.

Assistant, with possible view. Male or female. Coventry area. Salary £1,700, plus unfurnished house rent free.—Box A.738, B.M.J.

Assistant, with view, required as soon as possible in South Yorkshire. Partnership of two. House to rent. Salary £1,500, car allowance.—Box A.532, B.M.J.

Assistant, with view, required N.W. Kent. In-terested in maternity and children. Total salary £1,650. Accommodation available.—Box A.630, B.M.J.

Assistant, without view, required. Partnership of three. Semi-rural area of Kent. £1,200, plus rent-free furnished house.—Box A.329, B.M.J.

Assistantship, small West Country town, 6-9 months, from November 1. Regret no view. Pleasant country house. £125 per month inclusive. —Box A.704, B.M.J.

London suburb. Married Assistant required. Rota. Modern house and £1,500, including car. —Box A.737, B.M.J.

Part-time Assistant required, London N.1. Light duties.—Box A.615, B.M.J.

Part-time Assistant required, practice in S.E. London (Plumstead).—Box A.703, B.M.J.

Partnership in attractive West Herts locality requires male married Assistant (with car) end of September. Generous off-duty. Wide experience. Unfurnished flat available at reasonable rent. Obstetrics desirable. Salary £1,600 per annum inclusive.—Box A.702, B.M.J.

Permanent part-time Assistant, South Devon coastal resort, required by single-handed practitioner. Sessional basis. Suit retiring G.P.—Box A.725, B.M.J.

Wanted, experienced Assistant urgently, view after three months if suitable. Obstetrics. Large practice, seaside, East Anglia. Modern house available.—Box A.740, B.M.J.

Wanted, married Assistant. Metropolitan Essex. £1,500, plus attractive new house, rent free. No midwifery. View to suitable applicant.—Box A.513, B.M.J.

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Assistantship required by young D.Obst. R.C.O.G., ex-trainee assistant, car owner, in London area. Requests Saturday off-duty, but will do Sunday or additional work.—Box A.741, B.M.J.

Assistantship wanted, with or without view, Oxford. English. G.P. and obstetrics. Own car. Live out.—Box A.715, B.M.J.

Assistantship with view required, Manchester M.B., Conjoint and D.A., aged 29, Protestant, married, family, car. Present S.H.O. Obs. and Gynae. Limited G.P. experience. Keen to utilize anaes. (three years) and obs. experience.—Box A.751, B.M.J.

Available occasional evening and Saturday sur-geries. Week-end duties. N.W. London. Harrow area preferred.—Box A.714, B.M.J.

Indian woman doctor, hospitals, traineeship, car, with/without view. London and counties or Manchester area.—Box A.752, B.M.J.

Bristolian, Bristol graduate, 1957, D.C.H., mar-ried, seeks well-paid Assistantship, probable view Bristol area.—Box A.705, B.M.J.

N.E. London. Experienced practitioner avail-able mornings, some evening surgeries.—Dr. Davies, 11 Sylvan Road, Wanstead.

TRAINEE GENERAL PRACTITIONERS (Vacant)

Brighton area. Trainee vacancy. First-class modern practice with ancillary staff and maternity clinics. Rota of four. Ample leisure and study time. Maximum salary and allowances. For interview telephone Brighton 822218 or Box T.706, B.M.J.

Busy South-East London group practice requires male or female Trainee. Accommodation available.—Box T.537, B.M.J.

Male Trainee required. Car owner. Live out. Pleasant area near London. Varied experience. Ample study time and recreational facilities. Week-end rota. N.H.S. scale.—Newmark, 26 Broadway, Cheam, Surrey. VIGilant 3500.

Richmond-Twickenham. Trainee required. Delightful district. Congenial practice and colleagues. Postgraduate facilities. Car.—Box T.707, B.M.J.

Single-handed practitioner requires Trainee, male or female. Small town and country practice, with G.P. general/maternity hospital.— Dr. Ian Henderson, Caddon View, Innerleithen, Peeblesshire.

Trainee required, Central London, either sex. Live out. Must be Scottish or English. Ample free time. Interview expenses paid. All enquiries answered.—Box T.743, B.M.J.

Trainee required, lady or gentleman. One-man practice. Maximum salary. Car (and driving tuition) or full allowance. Living-out accommodation available.—Apply Dr. Slater, 193 Sandyford Road, Newcastle upon Tyne 2.

Trainee required. Pleasant partnership West London. Live out. Ample study time.—Box T.708, B.M.J.

Trainee required. Rural district West Riding of Yorkshire. Two in partnership.—Box T.515, B.M.J.

Trainee required, vacancy now, Ilford, Essex (Central Line tube). Partnership of two: nurse/receptionists. Rota. Obstetrics. Unfurnished flat available (no children).—Box T.649, B.M.J.

Trainee, single, either sex, invited for October. Four partners in country practice in South Oxfordshire. Scope for midwifery and time for study. Nice accommodation available. Full salary and allowances. Car essential.—Dr. A. R. H. Williamson, The Green, Nettlebed, Henley-on-Thames.

Trainee vacancy in pleasant area within easy reach of Edinburgh. Cottage hospital and maternity home. Small house available. Opportunity for broad general experience, including midwifery. Good leisure time.—Box T.742, B.M.J.

Trainee vacancy. Male, single. Live in. Country town. G.P. hospital. Sound training all branches of general practice. Regular long week-ends.—Dr. Andrews, Tetbury, Glos.

Trainee wanted November 1. Live out. South London suburb. No night duty.—Box T.648, B.M.J.

LOCUMS (Vacant)

Birmingham. Locum required, October 21 to 30 inclusive. Easily worked practice.—Box L.717, B.M.J.

Locum required October 23 to 28. Non-resident. Full remuneration.—Dr. Rosenfeld, 422 Hornsey Road, London N.19.

Locum wanted to assist senior partner, commence October 16 to November 4, 1961. Own car essential. Scarborough.—Box L.716, B.M.J.

LOCUMS (Available)

Experienced Locum available now. 48, single. M.B., M.R.C.S.—Box L.744, B.M.J.

SITUATIONS (Vacant)

Clinical Assistant

required for Diabetic Out-patient Clinic at the West Hill Hospital, Dartford. One morning a week (Mondays or Thursdays). Salary £215 a year.

Applications to the Group Secretary, Dartford Hospital Management Committee, the Bow Arrow Hospital, Dartford. (5785)

Family Planning Association requires woman doctor with, or willing to take, F.P.A. training for sessional work in Newark, Notts. Clinic opening early 1962. Sessions probably Wednesdays. Apply to Mrs. Rusby, 13 Abbeydale Park Crescent, Totley Rise, Sheffield, Yorks. (5913)

Newcastle Family Planning Clinic. Applications invited from doctors who hold the F.P.A. Certificate of Proficiency for a clinical assistant for extension of training at a contraceptive session on Wednesday evening at 6 p.m. The appointment is for six months at £1 11s. 6d. per session lasting approximately two hours. Applications, by October 14, to Hon. Secretary, F.P.A. Clinic, 4 Graingerville N., Newcastle upon Tyne 4. (5937)

Newcastle Family Planning Clinic requires woman doctor with F.P.A. training for Saturday morning sessions. Apply, by October 14, to Hon. Secretary, F.P.A. Clinic, 4 Graingerville N., Newcastle upon Tyne 4. (5938)

SITUATIONS (Wanted)

Glasgow M.B., Ch.B., of 38 requires interesting position with firm here or abroad. Good all-round experience, especially in G.P. and casualty.—Box S.745, B.M.J.

Medical woman, 42, M.B., D.Obst.R.C.O.G., recently practising colonies, seeks part-time employment, North Riding. General practice or other.—Box S.718, B.M.J.

Surgeon interested in urology seeks opening.—Box S.618, B.M.J.

INDUSTRIAL APPOINTMENTS

Attention is drawn to the British Medical Association's statement of policy on the Remuneration of Industrial Medical Officers (as revised in the light of the Report of the Royal Commission on Doctors' and Dentists' Remuneration, 1960, and approved by the Representative Body, 1961), which is available on request from the Secretary.

BRITISH EUROPEAN AIRWAYS

require an

ASSISTANT MEDICAL OFFICER

for general clinical duties at London Airport. Applicants (male only) should be of British nationality, not over 35 years of age, and must hold a British medical registration. Experience in General Practice, Aviation or Industrial Medicine an advantage.

Commencing salary will be £1,850.

Written applications, accompanied by a recent full-length photograph, should be sent to Personnel Manager (Head Office and London Stations), BEA, Bealine House, Ruislip, Middlesex, by not later than October 14, 1961. (5783)

NATIONAL COAL BOARD
WEST MIDLANDS DIVISION

Applications are invited for the post of
AREA MEDICAL OFFICER
in the North Staffordshire Area of the West Midlands Division. Candidates should have experience in the field of preventative and industrial medicine, and a knowledge of the coal-mining industry would be an advantage. The work will include making underground visits to collieries. Salary within the range £1,800-£3,000 per annum. Applications, on forms (quoting Reference BM) from the Area Staff Manager, No. 1 (North Staffordshire) Area, 72 Leek Road, Stoke-on-Trent, Staffs, to be returned by October 14, 1961. (5784)

ROLLS-ROYCE AERO ENGINE DIVISION
Derby

Applications invited for the appointment of a
SENIOR INDUSTRIAL MEDICAL OFFICER
to take local charge of Medical and Occupational Health Service. Aged between 40 and 50. Experience in industry required, and preference will be given to those holding a Diploma of Industrial Health. Commencing salary will be in accordance with the recommendations of the B.M.A. Applications, with details of previous experience, to the Chief Administration Officer, Rolls-Royce Limited, P.O. Box 31, Derby. (6003)

APPOINTED FACTORY DOCTORS
FACTORIES ACTS, 1937 to 1959

The following appointment as Appointed Factory Doctor is vacant: Millom, in the County of Cumberland. Applications, which should be received not later than October 14, 1961, should be sent to H.M. Chief Inspector of Factories, 19 St. James's Square, London S.W.1. (5869)

APPOINTMENTS

ANAESTHETICS

LEEDS REGIONAL HOSPITAL BOARD

CONSULTANT IN ANAESTHETICS
(Whole-time or maximum part-time)
for General Anaesthetic duties in the Huddersfield Group. A new general hospital of 500 beds is under construction at the present time. Person appointed to reside in Huddersfield. Applications (12 copies), stating age, qualifications, and details of appointments held (showing dates), with names and addresses of three referees, to the Secretary, Park Parade, Harrogate, by October 24, 1961. (5786)

NEWCASTLE REGIONAL HOSPITAL BOARD

CONSULTANT ANAESTHETIST
(whole-time or maximum part-time) required for duties in the South-West Durham Hospital Management Committee group. Total bed complement 870, main hospital Bishop Auckland General (387 beds). Applications, with names and addresses of three referees, to S.A.M.O., Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 21 days. (5744)

WELSH HOSPITAL BOARD

CONSULTANT ANAESTHETIST
to the Welsh Hospital Board and the Board of Governors of the United Cardiff Hospitals. Optional whole-time/maximum part-time appointment. Successful candidate will work in hospitals of the Board of Governors and other hospitals in the area. Further particulars obtainable upon request. Applications (12 copies), naming three referees, to S.A.M.O., Temple of Peace and Health, Cathays Park, Cardiff, within 21 days. (5981)

MOTHERS' HOSPITAL (Salvation Army)
London E.5 (Maternity, 110 beds)

Applications are invited for the temporary appointment of
MEDICAL OFFICER (G.P.) ANAESTHETIST
for up to three sessions a week, as and when required. Apply, with full details of qualifications and experience, etc., to Group Secretary, Hackney Hospital, E.9, by October 7, quoting MH/A. (5890)

BIRMINGHAM ACCIDENT HOSPITAL
Bath Row, Birmingham 15 (220 beds)

ANAESTHETIC REGISTRAR
Varied experience and training in all branches of anaesthesia for trauma. Previous experience in this type of work not essential. Anaesthetist staff consists of Registrar, two Senior House Officers, and three Consultants. Excellent opportunities for study. Application forms, from Secretary, Birmingham (Selly Oak) Group, Oak Tree Lane, Birmingham 29, to be returned by October 9, 1961. Candidates may visit hospital. (5824)

LEEDS REGIONAL HOSPITAL BOARD

Applications invited for the appointment of
REGISTRAR IN ANAESTHETICS
for duties in the Hull (A), Hull (B) and East Riding Groups. Recognized for the F.F.A.R.C.S. Duties may include thoracic anaesthesia. Non-resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by October 5, 1961. (5787)

LIVERPOOL REGIONAL HOSPITAL BOARD

Clatterbridge Hospital

Applications are invited for the post of
ANAESTHETIC REGISTRAR
with duties at the above hospital. Forms of application, from Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 55 Castle Street, Liverpool 2, to be returned not later than October 14, 1961.—Vincent Collinge, Secretary to the Board. (5959)

LIVERPOOL REGIONAL HOSPITAL BOARD

United Liverpool Hospitals

Applications are invited for the post of
SENIOR ANAESTHETIC REGISTRAR
The duties of the post will be initially at Sefton General and Mossley Hill Hospitals. The post is one of six Senior Registrarships in Anaesthesia, and transfers between posts in Regional and Teaching Hospitals are arranged to give experience in different branches of anaesthesia. Forms of application, from Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 55 Castle Street, Liverpool 2, to be returned not later than October 21, 1961.—Vincent Collinge, Secretary to the Board. (5960)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the post of
REGISTRAR IN ANAESTHETICS
to the Blackpool and Fylde Group of Hospitals. This post, available from mid-October, 1961, is recognized both for the F.F.A.R.C.S. and the D.A. Applications, stating age, qualifications and experience, and giving the names and addresses of two referees, to the Group Secretary, Blackpool and Fylde Hospital Management Committee, Victoria Hospital, Blackpool. (5757)

NEWCASTLE REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR ANAESTHETIST
whole-time, resident, for North and South Tees-side groups of hospitals: total beds, North Tees-side 747; South Tees-side 2,148. Experience available in all major specialties. Single accommodation is available. Married accommodation may be available. Applications, with names and addresses of three referees, to S.A.M.O., Newcastle Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 14 days. (5758)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Tottenham Group Hospital Management Committee, The Green, London N.15

ANAESTHETIC REGISTRAR
Prince of Wales's General Hospital. Resident. (Recognized for F.F.A.R.C.S.) Appointment subject to review at the end of one year. Vacant approximately second week in January, 1962. Application form, from Group Secretary, to be returned by October 14, 1961. (5611)

SHEFFIELD REGIONAL HOSPITAL BOARD

LOCUM RESIDENT REGISTRAR (Anaesthetics) required October 1 to March 31, 1962, at Nottingham General Hospital. Remuneration £25 per week. Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, naming two referees. (5759)

ST. GEORGE'S HOSPITAL GROUP, S.W.1

Applications are invited for the post of
SENIOR REGISTRAR
to the Department of Anaesthetics. The duties of this post will, in the first instance, be at Atkinson Morley's Hospital, Wimbledon, S.W.20, where the work is neurosurgical. Candidates must hold the F.F.A.R.C.S., and should have had experience in this specialty. The post is full-time, non-resident, and the successful candidate will be expected to take up duty on December 1, 1961, and to live within easy reach of Atkinson Morley's Hospital. Applications, stating age, education, qualifications and experience, together with the names of two referees, should reach the undersigned not later than October 20, 1961.—P. H. Constable, House Governor. (5873)

SHEFFIELD REGIONAL HOSPITAL BOARD

LOCUM RESIDENT REGISTRAR (Anaesthetics) required October 19, General Hospital, Grimsby. Remuneration £25 per week. Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, naming two referees. (5760)

THE NATIONAL HOSPITALS FOR NERVOUS DISEASES

Applications are invited from registered medical practitioners for the appointment of
ANAESTHETIC REGISTRAR
(resident), to commence as soon as possible. This post carries the grade of Registrar. The appointment will be for six months in the first instance. Applications, giving the names of three referees, to be sent to the undersigned not later than October 6, 1961.—Geoffrey A. Robinson, Secretary to the Board of Governors, The National Hospitals for Nervous Diseases, Queen Square, London W.C.1. (5529)

THORPE COOMBE MATERNITY HOSPITAL
714 Forest Road, Walthamstow, E.17

LOCUM REGISTRAR ANAESTHETIST
required from October 2 to 29, inclusive. Apply Hospital Secretary. (5421)

UNITED MANCHESTER HOSPITALS AND MANCHESTER REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR IN ANAESTHETICS
commencing at the Manchester Royal Infirmary as soon as possible. Whole-time non-resident post, tenable for 12 months, renewable. F.F.A.R.C.S. essential. The post is included in a Regional rotation scheme under which the successful candidate will transfer after a period to one of the Manchester non-teaching hospitals. Application form, obtainable from the undersigned, to be returned not later than October 14, 1961.—A. B. Scott, Esq., Secretary to the Board of Governors, United Manchester Hospitals, Manchester Royal Infirmary, Manchester 13. (5901)

WELSH HOSPITAL BOARD

REGISTRAR IN ANAESTHETICS
West Wales General Hospital, Glangwili, Carmarthen (265 beds). Non-resident. Subject to review end of first year. Application forms (12 copies) from S.A.M.O., Temple of Peace and Health, Cathays Park, Cardiff, within 14 days. (5982)

SUNDERLAND AREA HOSPITAL MANAGEMENT COMMITTEE

JUNIOR HOSPITAL MEDICAL OFFICER IN ANAESTHETICS
required immediately for the above group of hospitals. Excellent experience provided in all specialties. Single accommodation available. Applications, stating age, qualifications and experience, should be sent immediately to the Group Secretary, Sunderland Area Hospital Management Committee, General Hospital, Chester Road, Sunderland, Co. Durham. (5788)

BETHNAL GREEN HOSPITAL, E.2

SENIOR HOUSE OFFICER IN ANAESTHETICS
required immediately. Duties mainly at Bethnal Green Hospital, but person appointed required to provide cover for other nearby hospitals. Post offers ample opportunity for instruction and practical experience under Group Consultants. Recognized for F.F.A.R.C.S. and D.A. Resident preferred. Applications to Hospital Secretary. (5979)

BOARD OF MANAGEMENT FOR GLASGOW VICTORIA HOSPITALS
24 St. Vincent Place, Glasgow C.1

SENIOR HOUSE OFFICER IN ANAESTHETICS
for the Victoria Group of Hospitals, Glasgow, comprising Victoria Infirmary (teaching hospital), Philipshill Hospital (orthopaedic), Mearnskirk Hospital (thoracic and cardiac surgery), and Hairmyres Hospital. Applications, with names of two referees, to the Secretary before October 7, 1961. (5875)

Anaesthetics—contd.

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

Royal Northern Infirmary (224 beds)
Raigmore Hospital (416 beds)

RESIDENT HOUSE OFFICER OR S.H.O. (Anaesthetics)

Pre- or post-registration. Grading depending on experience. Tenable from October 1, 1961. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness. (5515)

CHELTENHAM GROUP HOSPITAL MANAGEMENT COMMITTEE

ADDITIONAL SENIOR HOUSE OFFICER ANAESTHETIST

Applications are invited from male and female practitioners for the above appointment. Salary and conditions of service in accordance with Whitley Council regulations. Post recognized for D.A. and F.F.A.R.C.S., and provides opportunity for study. Applications, with names of referees and full details, to S. T. Davis, Group Secretary, General Hospital, Cheltenham. (5939)

HARROGATE AND RIPON H.M.C.

Harrogate General Hospital

Applications are invited for a resident post of **SENIOR HOUSE OFFICER IN ANAESTHESIA** to take up duty as soon as possible. The post is recognized for D.A. and F.F.A. Apply, by October 12, with details of age, qualifications, posts held, etc., and the names and addresses of two referees, to the Hospital Secretary, Harrogate General Hospital, Harrogate, Yorkshire. (5940)

IPSWICH AND EAST SUFFOLK HOSPITAL

Anglesea Road Wing (351 beds)

LOCUM TENENS RESIDENT ANAESTHETIST Senior House Officer grade, required from October 8 to 28, 1961. Applications to Hospital Secretary. (5761)

NOTTINGHAM NO. 1 HOSPITAL MANAGEMENT COMMITTEE

General Hospital, Nottingham (467 beds)

Applications are invited for the posts of **RESIDENT SENIOR HOUSE OFFICER (Anaesthetics)** at the above hospital, with duties to commence mid/late September, 1961. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to be sent to the Group Secretary as soon as possible. (7904)

PEACE MEMORIAL HOSPITAL, Watford, Herts (215 beds)

Applications are invited for the post of **ANAESTHETIST** (resident or non-resident), Senior House Officer grade, to the Watford Hospitals. Recognized for the D.A. and F.F.A. Post vacant end of October. Please send applications, with copies of two recent testimonials, to the Administrator. (5876)

PLYMOUTH AND DISTRICT GROUP
Department of Anaesthetics

SENIOR HOUSE OFFICER

required for general duties. Tuition given for higher examination. Vacant December 1, 1961. Applications, with full details, including names of two referees, to the Group Secretary, 7 Nelson Gardens, Plymouth. (6000)

QUEEN MARY'S HOSPITAL, Sidcup, Kent

LOCUM SENIOR HOUSE OFFICER (Anaesthetics)

required from October 9 to 29, 1961, inclusive. Applications, giving full details, should be sent to the Secretary immediately. (5925)

SHREWSBURY HOSPITAL GROUP

Royal Salop Infirmary/Copthorne Hospital (500 beds)

SENIOR HOUSE OFFICER (Anaesthetics)

Post recognized for F.F.A.R.C.S. Registrar also employed. Vacant October 28, 1961. Applications, with copy testimonials, to Group Secretary, Copthorne Hospital, Shrewsbury. (5741)

THE UNITED BIRMINGHAM HOSPITALS

Applications are invited for the post of **SENIOR HOUSE OFFICER IN ANAESTHETICS** Resident or non-resident, for duties in the United Hospitals. The post is tenable for one year. The appointment is recognized for the purpose of taking the F.F.A.R.C.S. examination. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Edgbaston, Birmingham 15, and should be returned to him by October 7, 1961. (5920)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment specified in this notice or for any appointment under an authority referred to in this notice without first communicating with the Secretary of the British Medical Association, B.M.A. House, Tavistock Square, London W.C.1, to learn the views of the Association regarding the terms and conditions of service pertaining to the appointments. Medical practitioners are requested not to apply for, accept, or sit on Interview Boards for any of the Irish appointments without first communicating with the Medical Secretary of the Irish Medical Association, 10 Fitzwilliam Place, Dublin.

UNIVERSITY OF CAMBRIDGE

Professor of Pathology.
University Demonstrator in Pathology.

REPUBLIC OF IRELAND

Army Medical Services.
Portiuncula Hospital, Ballinasloe, Co. Galway, Resident and Visiting Medical Staff.

LOCAL APPOINTMENTS COMMISSION

All County Physician posts.
All County Surgeon posts.
All Local Authority Radiologists posts.
Cork Health Authority,
Paediatricians (part-time).
Physician, St. Finbarr's Hospital, Cork.
Donegal County Council,
Obstetrician/Gynaecologist.
Department of Social Welfare, Dublin,
Medical Referee.
Meath County Council,
Assistant Orthopaedic Surgeon.

By Order of the Council,
D. P. STEVENSON,
September 25, 1961. Secretary.

THE QUEEN VICTORIA HOSPITAL
Plastic Surgery and Jaw Injuries Centre, East Grinstead, Sussex

Tunbridge Wells Group Hospital Management Committee

SENIOR HOUSE OFFICER IN ANAESTHETICS

Applications invited for the resident appointment, now vacant. Anaesthetic duties for general hospital and for plastic, maxillo-facial, and ophthalmic surgery. Post recognized for the examinations of D.A. and F.F.A.R.C.S. Salary in accordance with terms and conditions for hospital medical staff. Applications, stating qualifications, experience, age, and names of three referees, to be sent to the Group Secretary. (5924)

WARRINGTON INFIRMARY

Applications are invited for the post of **RESIDENT ANAESTHETIST** (male or female) (graded as Senior House Officer). The hospital is recognized for the D.A. examination. Salary is: aged 27 or under £1,050 per annum; aged 28 or over £1,100 per annum, less a deduction of £180 per annum for residential emoluments. Applications, stating qualifications and experience, should be sent to the Group Secretary, Warrington and District Hospital Management Committee, General Hospital, Warrington, Lancs. (5953)

CARDIOLOGY

UNIVERSITY COLLEGE HOSPITAL
Gower Street, London W.C.1

Applications are invited for the appointment of **RESEARCH ASSISTANT in the Cardiac Department** (graded J.H.M.O.) for one year in the first instance. Applications, with names of two referees, to Administrator and Secretary by October 13, 1961. (5896)

BROMPTON HOSPITAL, S.W.3

Applications invited for post of **NON-RESIDENT HOUSE PHYSICIAN** to the Cardiac Department for six months from December 1, 1961. Duties include work in outpatient department and wards. Salary at rate of £825 per annum. Applications, stating age, qualifications (with dates), nationality, and appointments held, together with copies of testimonials, by October 7, 1961, to Kenneth A. F. Miles, House Governor. (5546)

CASUALTY

EAST ANGLIAN REGIONAL HOSPITAL BOARD

SURGICAL REGISTRAR (Casualty)

Ipswich and East Suffolk Hospital, Anglesea Road Wing, Ipswich. Appointment for one year, renewable for second year. Applications, stating age, experience, and names of two referees, to S.A.M.O., 117 Chesterton Road, Cambridge, by October 16, 1961. Candidates invited to visit hospital by direct arrangement with H.M.C. Secretary, Broughton House, Broughton Road, Ipswich. (5825)

ROYAL BUCKINGHAMSHIRE HOSPITAL
Aylesbury, Bucks

LOCUM CASUALTY OFFICER

required from October 10 to 24 inclusive. Apply, with two names for reference, to Secretary Superintendent. Telephone Aylesbury 4411. (5826)

EDGWARE GENERAL HOSPITAL
Edgware, Middlesex (647 beds)

JUNIOR HOSPITAL MEDICAL OFFICER

non-resident, required in the Casualty Department. Apply, stating age, nationality, and qualifications, and giving details of experience, together with the names and addresses of two referees, to Group Secretary, Edgware General Hospital, Edgware, Middlesex, by October 14, 1961. (5941)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Crumpsall Hospital, Manchester 8

Applications are invited for the post of **CASUALTY OFFICER** (J.H.M.O. grade), with duties in the Department of Orthopaedic Surgery. Recognized for F.R.C.S. Vacant October 19, 1961. Applications, with two referees, by October 10, 1961, to Group Secretary, The Red House, Crumpsall Hospital (Delaunays Road Entrance), Manchester 8. (5789)

QUEEN VICTORIA HOSPITAL, Morecambe

RESIDENT CASUALTY OFFICER

(J.H.M.O. grade). Locum would be considered. Apply, with names of two medical referees, to Group Secretary, Royal Lancaster Infirmary, Lancaster. (5942)

ROYAL SUSSEX COUNTY HOSPITAL
(312 beds)

SENIOR CASUALTY OFFICER

(J.H.M.O. grade) required for busy Casualty Department (medical staff of one J.H.M.O., one S.H.O., and two pre-registration House Surgeons). Resident or non-resident. Vacant mid-October. Locum applications will also be considered. Recognized for F.R.C.S. Applications, stating age, qualifications and experience, together with names of two referees, to the Administrative Officer, Royal Sussex County Hospital, Brighton 7. (5921)

THE ROYAL HOSPITAL, Wolverhampton

JUNIOR HOSPITAL MEDICAL OFFICER

required for Casualty Department. Vacant August. Over 29,000 new cases last year. Post offers first-class experience and is recognized for F.R.C.S. Successful applicant to work under supervision of Senior Casualty Officer. Resident or non-resident. Apply, with copies of two testimonials, to the Hospital Secretary. (6782)

YORK "A" AND TADCASTER HOSPITAL MANAGEMENT COMMITTEE

County Hospital, York (General Hospital 222 beds, with full Consultant Staff)

J.H.M.O.

required for Casualty Department. This post is resident or non-resident (married accommodation available), and is recognized for the F.R.C.S. Applications, giving age, experience, qualifications, nationality, and names of two referees, to Group Secretary, Bootham Park, York. (5384)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

Casualty—contd.

CHELMSFORD AND ESSEX HOSPITAL

CASUALTY OFFICER (Senior House Officer)
Applications are invited for the above resident post, which qualifies for an allowance of £100 per annum additional to salary. It is recognized for the F.R.C.S. and offers excellent experience in the treatment of fractures and diagnosis of acute medical and surgical emergencies. Opportunity is given for Casualty Officer to follow up his cases in the wards and to obtain operating experience in major theatre under the guidance of the Consultants or the Resident Surgical Officer. Off-duty time is generous, and the post is one likely to suit both an officer seeking a higher qualification in surgery or one intending general practice. Immediate vacancy. Apply Secretary, Chelmsford Hospital Management Committee, Chelmsford and Essex Hospital, London Road, Chelmsford. (8899)

CONNAUGHT HOSPITAL, Walthamstow, E.17

LOCUM CASUALTY OFFICER
(Senior House Officer) required from October 2 to 27, inclusive. Apply Hospital Secretary. (5423)

CRAWLEY HOSPITAL
West Green Drive, Crawley, Sussex

CASUALTY OFFICER
S.H.O. (one of two posts), required for new hospital at Crawley, Sussex. Post linked with Orthopaedic S.H.O. at Redhill County Hospital. Reasonable time for study for higher examinations. Flat or house will be made available. Apply immediately, in writing, giving details of age, previous experience, and the names and addresses of two referees, to the Secretary. (5790)

IPSWICH AND EAST SUFFOLK HOSPITAL
Heath Road Wing, Ipswich (280 beds)

TWO LOCUM TENENS S.H.O.s
required, Casualty and Orthopaedic Departments. Apply Hospital Secretary. (5397)

KENT AND SUSSEX HOSPITAL
Tunbridge Wells

S.H.O. (Casualty)
Locum required for last two weeks in October. Apply, with names of two referees, to Group Secretary, Tunbridge Wells Group Hospital Management Committee, Sherwood Park, Pembury Road, Tunbridge Wells. (5888)

PUTNEY HOSPITAL
The Lower Common, S.W.15

CASUALTY OFFICER
(Senior House Officer grade). Recognized for F.R.C.S., non-resident, vacant October 17, 1961. Apply Secretary, enclosing copies of three recent testimonials, not later than October 4, 1961. (5381)

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15

CASUALTY AND ORTHOPAEDIC HOUSE SURGEON
(male or female, Senior House Officer grade). Six months, commencing November 16, 1961. Post recognized for F.R.C.S. Applications, with the names of two referees, to Hospital Secretary as soon as possible. (5889)

ROYAL GWENT HOSPITAL, Newport, Mon (265 beds) (Recognized F.R.C.S.)

SENIOR HOUSE OFFICER
for Casualty Department, required mid-October, but prepared to accept suitable candidate a little earlier or later. Resident or non-resident. The department is under the full-time supervision of an S.H.M.O., and there are three S.H.O.s. All medical and surgical emergencies pass through the department. Excellent experience. Tenable for six or 12 months as desired. Write, quoting two referees, to T. A. Jones, Group Secretary, 64 Cardiff Road, Newport, Mon. (5745)

ST. MARGARET'S HOSPITAL, Epping

SENIOR HOUSE OFFICER
as Casualty Officer and Orthopaedic House Surgeon. Post recognized for F.R.C.S. Vacant November 1, 1961. Applications, with copies of two recent testimonials, to reach the Group Secretary, Epping Group H.M.C., Oak Cottage, The Plain, Epping, Essex, by October 14, 1961. (5827)

THE GENERAL HOSPITALS
RAMSGATE (93 beds) and MARGATE (118 beds)

SENIOR HOUSE OFFICER (Casualty)
The above post, falling vacant in the middle of October, is recognized for F.R.C.S., and affords excellent experience. Salary £1,050 or £1,100 per annum, according to age on appointment. Married accommodation is (or may be) available. Applications, with copies of testimonials, to Hospital Secretary, General Hospital, Ramsgate. (9865)

WEST SUFFOLK GENERAL HOSPITAL
Bury St. Edmunds (256 beds)

SENIOR HOUSE OFFICER or PRE-REGISTRATION HOUSE OFFICER
for Casualty and Orthopaedic duties required. Post recognized for F.R.C.S. (Casualty). J.H.M.O. Casualty Officer also employed. Applications, with testimonials or names of referees, to the Hospital Secretary by October 11, 1961. (5762)

WEYMOUTH AND DISTRICT HOSPITAL

CASUALTY OFFICER (S.H.O. grade)
required for six-monthly appointment, now vacant. Apply immediately, stating age, qualifications, nationality, experience, and enclosing copy testimonials, to Group Secretary, West Dorset H.M.C., Damers Road, Dorchester, Dorset. (5877)

LISTER HOSPITAL, Hitchin, Herts

CASUALTY OFFICER (H.O. grade)
required for duty with Accident Service and as Orthopaedic House Surgeon. Eligible for special grant. Vacant October 2, 1961. Recognized under Fellowship regulations and for pre-registration. Applications to the Medical Administrator, Lister Hospital, as soon as possible. (5398)

ROYAL SUSSEX COUNTY HOSPITAL
(312 beds)

HOUSE SURGEON
required for the Casualty and Orthopaedic Departments November 1. Medical staff of one J.H.M.O., one S.H.O., and two pre-registration House Surgeons. Duties include charge of orthopaedic and traumatic beds. Recognized for pre-registration and F.R.C.S. Applications, giving age, qualifications, experience, and naming two referees, to the Administrative Officer, Royal Sussex County Hospital, Eastern Road, Brighton 7. (5302)

CHEST AND TUBERCULOSIS

(see also THORACIC SURGERY)

PINEWOOD HOSPITAL, Wokingham

MEDICAL REGISTRAR
required. 210 beds for chest diseases, including thoracic surgical, investigation and bronchitis units. Resident or non-resident. Application forms from, and returnable to, Secretary, Windsor H.M.C., Alma Road, Windsor, by October 5. (5424)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Peppard Chest Hospital, Henley-on-Thames, Oxon

Applications are invited from registered medical practitioners for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The hospital deals with all types of chest disease in medical and surgical wards. Previous experience in resident hospital appointments is desirable. Single accommodation is available. Post vacant immediately. Applications, stating age, qualifications and experience, with names of two referees, should be forwarded to the Group Secretary, Reading and District Hospital Management Committee, 3 Craven Road, Reading. (5554)

BLACKPOOL AND FYLDE HOSPITAL MANAGEMENT COMMITTEE

Devonshire Road Hospital, Blackpool

SENIOR HOUSE OFFICER
(resident) for Chest Diseases and General Medicine required for October 24, 1961. Single or married quarters available. Apply, stating age, qualifications, experience, and giving the names and addresses of two referees, to the Group Secretary, Victoria Hospital, Blackpool. (5749)

HARTS HOSPITAL, Woodford Green, Essex (100 beds)

SENIOR HOUSE OFFICER
(resident) required. Married quarters are not available. The hospital is a modern chest hospital with Area Chest Clinic. The post offers exceptional opportunities for gaining experience in tuberculosis and diseases of the chest. Applications, with copies of two recent testimonials, should be sent immediately to Secretary, Forest Group H.M.C., Langthorne Road, E.11. (5763)

NORTHOWRAM HALL HOSPITAL, Halifax (108 beds)

SENIOR HOUSE OFFICER IN CHEST DISEASES
required. Post vacant November 1. Duties include attendance at busy chest clinic at the Royal Halifax Infirmary and non-tuberculosis chest ward work. The post offers excellent facilities for the study of chest diseases and experience is available with bronchoscopies and bronchograms. Salary in accordance with national scales. Applications to be forwarded to Group Secretary, Royal Halifax Infirmary, Halifax. (5562)

BROMPTON HOSPITAL, S.W.3

Applications invited for post of
NON-RESIDENT HOUSE PHYSICIAN
(two vacancies), for six months from December 1, 1961. Duties include work in out-patient department and wards. Salary at rate of £825 per annum. Applications, stating age, qualifications (with dates), nationality, and appointments held, together with copies of testimonials, by October 7, 1961, to Kenneth A. F. Miles, House Governor. (5547)

BROMPTON HOSPITAL, Frimley, Surrey

Applications invited for post of
RESIDENT HOUSE PHYSICIAN
for six months commencing December 1, 1961. Salary at rate of £825 per annum. Applications, stating age, qualifications (with dates), nationality, and appointments held, together with copies of testimonials, by October 7, 1961, to Kenneth A. F. Miles, House Governor, Brompton Hospital, London S.W.3. (5548)

DERMATOLOGY

NEWCASTLE REGIONAL HOSPITAL BOARD

REGISTRAR DERMATOLOGIST
whole-time, non-resident, for Sunderland group of hospitals, main hospitals Sunderland General (443 beds, 28 dermatological), Royal Infirmary (300 beds). Candidates must have had general medical experience and hold a higher qualification in medicine, and preference will be given to a candidate who has held a post as Registrar in General Medicine. The facilities and opportunities for research in the Professorial Dermatological Unit at the Royal Victoria Infirmary, Newcastle upon Tyne, will be available to the successful candidate, who will be expected to attend a weekly seminar in this department. It is intended that at some period of his training the candidate will exchange duties with a Registrar in Dermatology at the teaching hospital for a period of one year. Applications, with names and addresses of three referees, to S.A.M.O., Newcastle Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 14 days. (5750)

THE UNITED BIRMINGHAM HOSPITALS

Applications are invited for the whole-time post of
NON-RESIDENT SENIOR DERMATOLOGICAL REGISTRAR (Senior Registrar grade)
to the Department of Dermatology in the United Birmingham Hospitals. Duties will be undertaken at the General, Queen Elizabeth, and Children's Hospitals. Previous experience of the specialty and Membership of the Royal College of Physicians are required. The successful candidate will be expected to avail himself of the extensive opportunities provided for research. For some period of his training the successful candidate may be required to exchange duties with a Senior Dermatological Registrar of the Birmingham Regional Hospital Board. Forms of application may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham 15, and should be returned to him not later than October 14, 1961. (5902)

THE UNIVERSITY OF LEEDS
Department of Medicine—Division of Dermatology

Applications are invited for appointment as
SENIOR REGISTRAR AND TUTOR IN DERMATOLOGY
at a salary on the scale £1,500 by £100 to £1,800 a year. Applicants who have held posts as Senior Registrar in General Medicine or who hold membership of the Royal College of Physicians will be considered; they need not have had specialized experience in dermatology. Applications (three copies), stating date of birth, qualifications, details of present and previous appointments (with dates), and experience of teaching, together with the names of three referees, should reach the Registrar, the University, Leeds 2 (from whom further particulars may be obtained), not later than October 23, 1961. (5970)

SOUTHERN GENERAL HOSPITAL
Glasgow S.W.1

SENIOR HOUSE OFFICER IN DERMATOLOGY
Write immediately to Secretary, Board of Management for Glasgow South-Western Hospitals, 1301 Govan Road, Glasgow S.W.1, naming two referees. (5895)

GERIATRICS

NORTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

Applications are invited for the post of whole- or maximum part-time
CONSULTANT PHYSICIAN
for duty with the Regional Geriatric Service. Applications, together with the names of two referees, should be forwarded, by November 4, 1961, to the Senior Administrative Medical Officer, 1 Albyn Place, Aberdeen, from whom further particulars and a form of application may be obtained. (5943)

Geriatrics—contd.

WELSH HOSPITAL BOARD

CONSULTANT GERIATRICIAN
to the West Wales and Mid-Wales Hospital Management Committee. Successful candidate will assist in planning, establishing and maintaining a geriatric service for the West Wales and Mid-Wales Hospital Management Committees, and will be based at West Wales General Hospital, Carmarthen, with visits to other hospitals in these groups. Successful candidate will also be required to undertake the domiciliary investigation of patients and to establish a close liaison with general practitioners and Local Health Authorities, and to reside within the group. Optional whole-time / maximum part-time appointment. Further particulars obtainable upon request. Applications (12 copies), naming three referees, to S.A.M.O., Temple of Peace and Health, Cathays Park, Cardiff, within 21 days. (5891)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN GERIATRICS
in the Hull (A) Group (367 geriatric beds in the charge of a Consultant Geriatrician). Duties include three sessions in general medicine. Non-resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by October 5, 1961. (5791)

MANCHESTER REGIONAL HOSPITAL BOARD

Oldham and District General Hospital
Geriatric Unit (327 beds)

REGISTRAR (Resident or Non-resident)
Applications are invited for the above post, which is vacant as a result of the present holder's promotion to Assistant Physician. The successful candidate will work under the direction of a Consultant Physician (Geriatrician) and will have the opportunity of gaining experience in all aspects of geriatric medicine (acute, and chronic illness in those of pensionable age and over, domiciliary visiting and out-patient clinics), the emphasis being placed on clinical medicine. Applications, together with the names and addresses of two referees, and quoting Ref. No. J/16, to be forwarded to the Group Secretary, Central Offices, Rochdale Road, Oldham. (5588)

GLANTAWE HOSPITAL MANAGEMENT COMMITTEE

Bryntirion Hospital (153 beds), Llanelly

Applications are invited for the appointment of
LOCUM JUNIOR HOSPITAL MEDICAL OFFICER
for work in the Geriatric Wards of the above hospital, under the supervision of a Consultant Geriatrician. The appointment will terminate on December 15, 1961. Accommodation is available for a single person. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the Hospital Secretary.—T. E. Jones, Group Secretary. (5828)

GLAN ELY HOSPITAL (215 beds)
Fairwater, Cardiff

SENIOR HOUSE OFFICER IN GERIATRIC MEDICINE
required. Hospital houses Geriatric Rehabilitation Unit under the direction of the Consultant Geriatrician. (65 beds, shortly to be increased to 112 beds.) Married accommodation available. Further information from Medical Superintendent. Form of application from Group Secretary, Cardiff H.M.C., 44 Cathedral Road, Cardiff. (5829)

INFECTIOUS DISEASES

BOARD OF MANAGEMENT FOR GREENOCK AND DISTRICT HOSPITALS

Gateside I.D. Hospital, Greenock

REGISTRAR IN INFECTIOUS DISEASES
required immediately for Gateside I.D. Hospital, Greenock. Experience in infectious diseases would be an advantage, but is not essential. Experience in general medicine is essential. The post offers a wide experience in communicable diseases, and duties will include the care of paediatric and dermatological cases. Applications, giving details of age, experience and qualifications, together with the names of three referees, should be forwarded to the Secretary and Treasurer, at Headquarters, 47 Eldon Street, Greenock, within 14 days from the date of insertion. (5878)

MEDICINE

WESSEX REGIONAL HOSPITAL BOARD

Whole-time or maximum part-time
CONSULTANT PHYSICIAN
required for the Winchester and Alton Groups of hospitals. The main duties will be in the Winchester Group, which includes Andover and Basingstoke, and the successful candidate will also be required to undertake approximately two sessions weekly in the Alton Group. Applicants may obtain further particulars of the post from the Senior Administrative Medical Officer to the Board. Residence in or within a ten-mile radius of Winchester is a condition of the appointment. Canvassing will disqualify. Candidates may visit the hospitals concerned by arrangement with the Group Secretary of the Winchester Group Hospital Management Committee, Royal Hampshire County Hospital, Romsey Road, Winchester, and the Group Secretary of the Alton Group Hospital Management Committee, Lord Mayor Treloar Hospital, Alton. Applications (seven copies), stating age, qualifications, experience, and the names and addresses of three referees, to the Secretary, Highcroft, Romsey Road, Winchester, by October 28, 1961. (5830)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60 Grove End Road, London N.W.8

Required, to commence on Monday, January 8, 1962:
PART-TIME MEDICAL REGISTRAR
(Male). The possession of the Membership of the Royal College of Physicians of London is desirable. Honorarium at the rate of £400 per annum. Further particulars may be obtained from the Secretary, to whom applications, with the names of three referees, should be sent on or before Wednesday, October 25, 1961. (5879)

LAW HOSPITAL, Carluke (750 beds)

Applications are invited for the post of
LOCUM REGISTRAR IN GENERAL MEDICINE
tenable for one year as from October 1, 1961. Applications, stating age, qualifications and previous experience, together with the names of two referees, should be submitted to the Group Medical Superintendent, Law Hospital, Carluke. (5993)

MANCHESTER REGIONAL HOSPITAL BOARD

Blackburn and District Hospital Management Committee
Royal Infirmary, Blackburn (262 Acute beds)

LOCUM RESIDENT REGISTRAR (Medicine)
required for six weeks from October 10, 1961. Salary £25 per week. Applications to Group Secretary, H.M.C. Office, Royal Infirmary, Blackburn, Lancs. (5400)

NEWCASTLE REGIONAL HOSPITAL BOARD

REGISTRAR PHYSICIAN
non-resident, for Hartlepools group of hospitals. Main hospital General, West Hartlepool (460 beds, including 61 acute medical beds). Furnished flat available. Applications, with names and addresses of three referees, to S.A.M.O., Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 14 days. (5751)

NEWCASTLE REGIONAL HOSPITAL BOARD

REGISTRAR PHYSICIAN
whole-time, resident, for Durham group of hospitals, main hospital Chester-le-Street General (194 beds). Single accommodation at a nearby hospital. Married accommodation may be available. Post available January 1, 1962. Applications, with names and addresses of three referees, to S.A.M.O., Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 14 days. (5746)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Tilbury and S.E. Essex Hospital Management Committee

MEDICAL REGISTRAR
Tilbury and Riverside General Hospital, Orsett Branch (59 medical beds). Resident. Appointment subject to review at the end of one year. Application forms can be obtained from Group Secretary, Thurrock Hospital, Grays, Essex. Closing date for applications October 6, 1961. (5927)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

West Ham Group Hospital Management Committee

REGISTRAR IN GENERAL MEDICINE
with an interest in Paediatrics. Non-resident. Based at St. Mary's Hospital, E.13 (41 adult acute medical beds and 11 paediatric beds), to serve also Plaistow Hospital (17 adult acute medical beds), and to visit Plaistow Maternity Hospital (special care babies) as required. Application forms available from Group Secretary, West Ham Group Hospital Management Committee, Stratford, E.15, which must be returned, duly completed, not later than October 13, 1961. (5987)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Ancoats Hospital

Applications are invited for the post of
REGISTRAR IN MEDICINE
(R.M.O.). Vacant October 16, 1961. Applications, with two referees, by October 9, 1961, to Group Secretary, The Red House, Crumpsall Hospital (Delaunays Road Entrance), Manchester 8. (5764)

RUSH GREEN HOSPITAL, Romford, Essex

LOCUM REGISTRAR (General Medicine)
required from October 14 to 29. Resident post. Apply, quoting Ref. 18/55, to Group Secretary, Romford H.M.C., Oldchurch Road, Romford. (5765)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Kingston Group Hospital Management Committee

Applications are invited from suitably qualified medical officers for the post of
MEDICAL REGISTRAR
at Kingston Hospital, Kingston-upon-Thames, which is available on December 11, 1961. Forms of application may be obtained from the Group Secretary, 35 Coombe Road, Kingston-upon-Thames, and completed forms should be returned to him within 14 days of the appearance of this advertisement. (5792)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

South London Hospital for Women and Children, Clapham Common, S.W.4

Applications are invited from women medical practitioners for the post of
MEDICAL REGISTRAR
(eight sessions weekly). Vacant on November 30, 1961. The appointment will be for one year in first instance. Canvassing will disqualify, but candidates are invited to visit the hospital. Forms of application from Secretary, Lambeth Group H.M.C., Renfrew Road, S.E.11, to whom completed applications should be returned not later than October 14, 1961. (5840)

BRIDGWATER GENERAL HOSPITAL
Bridgwater, Somerset

Bridgwater, Minehead and Bulleigh Hospital Management Committee

Applications are invited for the post of resident
JUNIOR HOSPITAL MEDICAL OFFICER
This is an acute general hospital with a busy out-patient and casualty department, and the post offers a variety of clinical experience. Applications to the Group Secretary, address as above, giving details of experience, and the names of two referees. (5401)

BANBURY, OXON., HORTON GENERAL HOSPITAL (355 beds)

SENIOR HOUSE OFFICER (Physician)
required to commence November 1. Post provides experience in general medical and children's wards. Five other residents. Applications, stating age, nationality, qualifications, and names of two referees, to the Secretary. (5392)

BOARD OF MANAGEMENT FOR GLASGOW ROYAL INFIRMARY AND ASSOCIATED HOSPITALS

SENIOR HOUSE OFFICER IN MEDICINE
Duties at Belvidere Hospital, London Road, Glasgow E.1. Apply in writing, giving three names for reference, to the Secretary, Board of Management for Glasgow Royal Infirmary and Associated Hospitals, 84 Castle Street, Glasgow C.4, not later than October 13, 1961. (5945)

COLWYN BAY AND WEST DENBIGHSHIRE HOSPITAL (60 beds)

LOCUM S.H.O.
required for two or three weeks. Self-contained furnished flat available. Applications, with full particulars, to Group Secretary, "Rhianfa," Russell Road, Rhyl. (5793)

CROYDON GROUP HOSPITAL MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER
(General Medicine and Chest Medicine)
for duties at Mayday Hospital and adjacent Croydon Chest Clinic. Post vacant October 29. Resident or non-resident. Applications in writing, together with names of two referees, to Group Secretary, General Hospital, Croydon, within seven days of appearance of this advertisement. (5766)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

Medicine—contd.

HEATHERWOOD HOSPITAL, Ascot

SENIOR HOUSE OFFICER
required from October 15 for 30-bed Medical Unit. Resident post. Applications, with full details and two referees, to Secretary. (5794)

IPSWICH AND EAST SUFFOLK HOSPITAL

Anglesea Road Wing (351 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER IN GENERAL MEDICINE
The post offers excellent experience and opportunity for working for higher qualifications (M.R.C.P.). Excellent library facilities are available. There are approximately 50 acute medical beds. Applications, stating age, nationality, and previous experience, together with copies of recent testimonials, to Hospital Secretary, as soon as possible. (5385)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds

SENIOR HOUSE OFFICER (RESIDENT) IN MEDICINE
Post vacant early October. Applications to the Secretary as soon as possible. (5427)

NEWTON ABBOT HOSPITAL

SENIOR HOUSE PHYSICIAN (Resident)
male or female, required October 1, 1961. Duties divided equally between 10 acute medical beds in General Section and 154 geriatric beds. This officer is also required to stand in when Senior House Surgeon and Casualty Officer otherwise engaged. Appointment provides ample opportunity to read for higher qualifications. Married quarters available. Applications, stating qualifications, nationality, age, with copy testimonials, to Group Secretary, Torbay Hospital, Torquay, S. Devon (quoting Ref. F.899/11). (9697)

THE LEICESTER ROYAL INFIRMARY

Applications are invited for the Pre-registration/Senior House Officer post of
RESIDENT HOUSE PHYSICIAN
vacant November 24, 1961. Establishment of one Senior Registrar, one Registrar, and three House Physicians. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to Group Secretary, Leicester No. 1 Hospital Management Committee, by October 4, 1961. (5403)

TORQUAY DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Torbay Hospital, Torquay

SENIOR RESIDENT HOUSE OFFICER (Medicine)
required mid-October, 1961. There is a complement of nine Resident House Officers. Hospital recognized for D.A. and F.F.A.R.C.S. Appointment provides ample opportunity to read for higher qualifications. Applications, stating qualifications, age, nationality, with copy testimonials, to Group Secretary, Torbay Hospital, Torquay. (5235)

BURNLEY AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Victoria Hospital, Burnley (173 beds)

RESIDENT HOUSE OFFICER (Medical)
The appointment is approved as a pre-registration post. Applications, with two references, to Group Secretary, Burnley General Hospital. Post available October 7, 1961. (5946)

DREADNOUGHT SEAMEN'S HOSPITAL
Greenwich, S.E.10

HOUSE PHYSICIAN
(pre-registration) required on November 1, 1961. Applications, stating age, nationality, qualifications and experience, and enclosing a copy of two testimonials, should be sent to the Secretary, at the above address, by October 7. (5972)

EASTBOURNE, PRINCESS ALICE HOSPITAL (120 beds)

Applications are invited for the pre-registration post of
HOUSE PHYSICIAN
for General Medicine in a busy, well-equipped hospital. Staff of J.H.M.O. and three House Officers. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to the Group Secretary, 29 Bedfordwell Road, Eastbourne. (5831)

COVENTRY AND WARWICKSHIRE HOSPITAL
Coventry (418 beds)

HOUSE PHYSICIAN
(pre-registration). Resident. Vacant October 9. Post carries membership of Birmingham Medical Institute. Applications to Hospital Secretary. (5453)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London)

Applications invited for appointment of resident
HOUSE PHYSICIAN
(male or female), 2nd or 3rd post held. Recognized pre-registration post. Preference given to applicants who have held resident surgical or medical posts in general hospital. Duties to commence November 2, 1961. Applications to Group Secretary, Hertford H.M.C., County Hospital, Hertford, Herts, by October 3, 1961. (5539)

HOSPITAL OF ST. CROSS, Rugby (168 beds)

HOUSE PHYSICIAN
(Pre-registration). Vacant November 12. Resident. Post carries membership of Birmingham Medical Institute. Applications to Hospital Secretary. (5767)

LEEDS REGIONAL HOSPITAL BOARD

HOUSE PHYSICIANS
Recognized pre-registration posts will be available for the six months commencing November 1, 1961, in the following hospitals, approved under the Medical Act, 1950:
General Hospital, Dewsbury (128 beds)—1 vacancy.
*Staincliffe General Hospital, Dewsbury (308 beds) (vacant December 1)—1 vacancy.
Royal Halifax Infirmary (301 beds)—1 vacancy.
* Recognized for D.C.H.
Application forms can be obtained from the Secretary to the Board, Park Parade, Harrogate, or from the Dean, School of Medicine, Thoresby Place, Leeds 2, and should be returned to either of the above-named as soon as possible. Application may be made in advance of results of final examinations. Candidates wishing to apply for posts at more than one hospital should complete a separate form in respect of each hospital. (5795)

MILLER GENERAL HOSPITAL
Greenwich, S.E.10 (180 beds)

HOUSE PHYSICIAN
Vacant November 3. Six months' appointment. National salary and conditions. Write, with testimonials, to Group Secretary, G. and D. H.M.C., St. Alfege's Hospital, S.E.10. (5862)

ROYAL HALIFAX INFIRMARY

HOUSE PHYSICIAN
required. Post vacant October 1, 1961. Pre-registration appointment. Applications to Group Secretary, Royal Halifax Infirmary, Halifax. (5563)

ROYAL SUSSEX COUNTY HOSPITAL (312 beds)

HOUSE PHYSICIAN
(pre-registration) required December 4, 1961. Applications, stating age, qualifications, experience, and naming two referees, to the Administrative Officer, Royal Sussex County Hospital, Brighton 7. (5516)

ST. LUKE'S HOSPITAL, Bradford (724 beds)

JUNIOR HOUSE PHYSICIAN (General Medicine)
Post vacant November 1, 1961. Recognized for pre-registration purposes. Applications, stating qualifications, experience, etc., together with copy testimonials, to the Secretary, Royal Infirmary, Bradford 9. (5929)

SCOTT HOSPITAL, Plymouth

HOUSE PHYSICIAN
required at the above hospital, vacancy October 2, 1961. Work will be chiefly in adult medical wards, but there may be opportunity for work in the children's section. Applications, as soon as possible, enclosing copies of two recent testimonials and names of two referees, to Group Secretary, Plymouth and District Hospital Management Committee, 7 Nelson Gardens, Plymouth. (6001)

SOUTH TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

Hemlington Hospital, Middlesbrough

Applications are invited for the appointment of
HOUSE PHYSICIAN (Pre-registration)
at the above hospital. Unit consists of 46 beds. Resident staff consists of two House Officers. The hospital is situated in the country within easy reach of Middlesbrough, and good transport arrangements are available. Applications, stating age, qualifications and experience, together with two names for reference, should be sent to the Hospital Secretary. (5752)

NEUROLOGY

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London W.C.1, and
THE LONDON HOSPITAL
Whitechapel Road, London E.1

Applications are invited for the post of
SENIOR REGISTRAR
in E.E.G. and Clinical Neuro-physiology, to be held jointly at the above hospitals. The appointment will include some clinical duties. Candidates should have had previous experience in an allied specialty of at least Registrar status. Further particulars and application forms, to be returned by October 16, 1961, are obtainable from the House Governor, The Hospital for Sick Children, Great Ormond Street, W.C.1. (5552)

NEUROSURGERY

BIRMINGHAM REGIONAL HOSPITAL BOARD AND UNITED BIRMINGHAM HOSPITALS

WHOLE-TIME SENIOR REGISTRAR IN NEUROSURGERY
Duties divided equally between the two Boards at the Midland Centre for Neurosurgery, Smethwick, and Queen Elizabeth Hospital, Birmingham. Non-resident. Higher qualification and experience neurosurgery required. Application forms, from Secretary, R.H.B., 10 Augustus Road, Birmingham 15, to be returned by October 16, 1961. Candidates may visit hospitals. (5796)

THE LONDON HOSPITAL, Whitechapel, E.1

Applications are invited for the post of
SENIOR REGISTRAR
to the Department of Neurosurgery, becoming vacant on January 1, 1962. Candidates must be Fellows of the Royal College of Surgeons and have previous experience in neurosurgery. Applications (10 copies), giving the names and addresses of three referees, should be received by the undersigned by October 14, 1961.—H. Brierley, House Governor. (5871)

WHITTINGTON HOSPITAL
Highgate Hill, London N.19

LOCUM REGISTRAR
required for Department of Neurosurgery from October 10. Write or call Hospital Secretary (ARC 3070, Ext. 439). (5798)

WHITTINGTON HOSPITAL
Highgate Hill, London N.19

REGISTRAR
required for Department of Neurosurgery. Vacant October 10. Hospital may be visited by direct appointment with the Hospital Secretary (ARC 3070, Ext. 439). Application forms obtainable from, and returnable to, Group Secretary, Archway Group H.M.C., 46 Cholmeley Park, N.6, by October 9. (5799)

OBSTETRICS AND GYNAECOLOGY

BOARD OF MANAGEMENT FOR GLASGOW ROYAL INFIRMARY AND ASSOCIATED HOSPITALS

REGISTRAR IN OBSTETRICS AND GYNAECOLOGY
Duties at Glasgow Royal Infirmary and Eastern District Hospital. Apply in writing, giving three names for reference, to the Secretary, Glasgow Royal Infirmary, 84 Castle Street, Glasgow C.4, not later than October 13, 1961. (5994)

BOARD OF MANAGEMENT FOR STIRLING AND CLACKMANNAN HOSPITALS

Applications are invited for the post of
REGISTRAR IN OBSTETRICS AND GYNAECOLOGY
based at Stirling Royal Infirmary. Applications (four copies), stating date of birth, qualifications, experience, present appointment, and the names of three persons to whom reference can be made, should be sent to the Group Medical Superintendent, Royal Infirmary, Stirling. (5880)

MANCHESTER REGIONAL HOSPITAL BOARD

Blackburn and District Hospital Management Committee

RESIDENT REGISTRAR (Obstetrics/Gynaecology)
required October 9, 1961. Post recognized for Membership and D.Obst.R.C.O.G. (combined obstetrics and gynaecology). Based on Queen's Park Hospital, Blackburn, a large busy hospital with 58 obstetric and 29 gynaecology beds. Duties also at Royal Infirmary, Blackburn, and Victoria Hospital, Accrington. Accommodation is available for married man. Application forms available from, and returnable to, the Group Secretary, H.M.C. Office, Royal Infirmary, Blackburn. (5406)

Obstetrics and Gynaecology—contd.

NEWCASTLE REGIONAL HOSPITAL BOARD

REGISTRAR OBSTETRICIAN AND GYNAECOLOGIST

whole-time, resident, for Sunderland group of hospitals, main hospitals Thorpe Maternity (47 obstetric beds) and Ryhope General (26 gynaecology beds). Married and single accommodation. Applications, with names and addresses of three referees, to S.A.M.O., Newcastle Regional Hospital Board, Benfield Road, Newcastle upon Tyne 6, within 14 days. (5753)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Chelmsford Group Hospital Management Committee
St. John's Hospital, Chelmsford

Applications are invited for
TWO RESIDENT REGISTRARS IN OBSTETRICS AND GYNAECOLOGY
to commence on December 1. Posts recognized for D.Obst.R.C.O.G. and M.R.C.O.G. Furnished accommodation available. There is active teaching in the department for candidates studying for the above qualifications, and undergraduate and postgraduate (general practitioner) teaching is also conducted. Application forms, from Secretary, Chelmsford Hospital Management Committee, Bellefield, London Road, Chelmsford, Essex, to be returned by October 21, 1961. (5928)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of
LOCUM REGISTRAR IN OBSTETRICS AND GYNAECOLOGY
at Crumpsall Hospital, for the period November 1, 1961, to January 11, 1962, inclusive. Applications, with names of two referees, to be forwarded to the Group Secretary, The Red House, Crumpsall Hospital (Delaunays Road Entrance), Manchester 8, forthwith. (5832)

OXFORD REGIONAL HOSPITAL BOARD

REGISTRAR IN OBSTETRICS AND GYNAECOLOGY

to the hospitals of the Aylesbury Area. It is hoped that this post may be interchangeable with a post in the Area Department of Obstetrics and Gynaecology, United Oxford Hospitals, after the first year. The appointment is for one year, eligible for extension to a second year. Furnished flat available. Applications, on forms obtainable from the Secretary, Committee for Registrars, 43 Banbury Road, Oxford, should reach him by October 16, 1961. (5797)

ST. ALFEGE'S HOSPITAL, Greenwich, S.E.10
Recognized for Dip./M.R.C.O.G. examination

LOCUM RESIDENT REGISTRAR
(Obstetrics and Gynaecology)

preferably with M.R.C.O.G., for unspecified period from an early date. Salary £25 weekly, less £215 per annum for residence. Write, with testimonials, to Group Secretary, G. and D. H.M.C., above hospital, or telephone GRE 2655, Ext. 117. (5956)

THE UNITED BIRMINGHAM HOSPITALS

The Birmingham and Midland Hospitals for Women (Incorporating the Hospital for Women and the Birmingham Maternity Hospital), Showell Green Lane, Sparkhill, Birmingham 11

Applications are invited for the post of
RESIDENT OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
vacant January 1, 1962. The successful candidate will be required to alternate duty at the Hospital for Women and the Maternity Hospital, for specified periods. The post is recognized for the M.R.C.O.G., and applicants should have held house appointments and at least one obstetrical and gynaecological post. Forms of application may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham 15, and should be returned to him not later than October 14, 1961. (5903)

BANBURY AND DISTRICT HOSPITALS MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)

required November 10 for duty at Horton General and Horton Maternity Hospitals. Recognition for the D.Obst.R.C.O.G. is being sought. Applications, with copies of two recent testimonials or names of persons to whom reference may be made, to Secretary, Horton General Hospital, Banbury, Oxon. (5768)

HAREFIELD HOSPITAL, Harefield, Middlesex

SENIOR HOUSE OFFICER

required for Gynaecological Department. Applications, with names of two referees, to be sent to the Hospital Secretary by October 14, 1961. (5882)

CITY GENERAL HOSPITAL, Stoke-on-Trent
(792 beds)

SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)

required. Post vacant end October. Recognized M.R.C.O.G., D.Obst.R.C.O.G. 100 obstetrics, 40 gynaecology beds. Staff includes Senior Registrar, Registrar, two House Surgeons. Detailed applications, with copy testimonials, to Hospital Secretary. (5800)

HOSPITAL FOR WOMEN, Soho Square, W.1
(Affiliated to the Middlesex Hospital)

Applications are invited for a full-time post of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE OFFICER
vacant on January 1, 1962. Appointment is for six months, but the holder can apply for an extension of six months. Salary in accordance with the terms laid down for medical and dental staffs, less a deduction of £180 per annum for residential emoluments. The appointment is recognized for the M.R.C.O.G. examination. Applications, stating age, nationality, qualifications and experience, supported by the names and addresses of two referees, must reach the undersigned not later than Tuesday, October 17, 1961.—D. C. Emery, Secretary. (5866)

MATERNITY AND FULFORD HOSPITALS
Fulford, York

RESIDENT SENIOR HOUSE OFFICER IN OBSTETRICS AND GYNAECOLOGY

required from December 1, 1961. This post is recognized for the M.R.C.O.G. examination, and previous experience is desirable. Details of the post, together with training facilities for the examination, are available on request. Applications and experience, together with the names of two referees, to be submitted by October 18 to the the Hospital Secretary. (5769)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS

Queen Charlotte's Maternity Hospital

JUNIOR OBSTETRIC OFFICER

(Senior House Officer), resident post tenable for six months from January 1, 1962. Applications to the House Governor by October 14, 1961, on forms obtainable from 339 Goldhawk Road, London W.6. (5899)

RONKSWOOD HOSPITAL (295 beds)

SENIOR HOUSE OFFICER IN OBSTETRICS AND GYNAECOLOGY

required immediately for unit of 49 obstetric and 40 gynaecology beds. Post recognized for M.R.C.O.G. and D.Obst.R.C.O.G. Applications to Hospital Secretary. (5947)

SHOTLEY BRIDGE GENERAL HOSPITAL
Consett, Co. Durham

SENIOR HOUSE OFFICER
(Gynaecology with Obstetrics)

This post, tenable for one year, is recognized for the M.R.C.O.G. for Gynaecology, and will fall vacant on October 1, 1961. Duties are primarily in the Gynaecological Department, with supplementary responsibilities in the Obstetrical Department (43 gynaecological and 28 obstetrical beds). Applicants should have been qualified for over one year. Applications, giving age, nationality and qualifications, together with the names of two referees, to Group Secretary. (5864)

SHREWSBURY HOSPITAL GROUP

Cross Houses Hospital

SENIOR HOUSE OFFICER or HOUSE OFFICER
(Obstetrics)

with gynaecological duties. Vacant October 13, 1961. Furnished cottage available. Applications, with copy testimonials, to Group Secretary, Copthorne Hospital, Shrewsbury. (5801)

TAUNTON AND SOMERSET HOSPITAL

SENIOR HOUSE OFFICER
(Gynaecology and Obstetrics)

required. Post vacant October 17, 1961. Recognized for M.R.C.O.G. Applications, stating age, nationality, qualifications and experience, together with the names of two referees, to the Group Secretary, Musgrove Park Hospital, Taunton, Somerset. (5802)

UNITED MANCHESTER HOSPITALS

Saint Mary's Hospitals, Manchester

SENIOR HOUSE OFFICER IN GYNAECOLOGY

Applications are invited for a post vacant November 12, 1961, for six months, recognized for M.R.C.O.G. examination. Applicants must have had previous hospital experience in medicine and surgery. Application forms may be obtained from the undersigned, and returned not later than October 11, 1961.—A. R. J. Wise, General Superintendent, Saint Mary's Hospital, Whitworth Park, Manchester 13. (5995)

UPTON HOSPITAL, Slough

SENIOR HOUSE OFFICER

required October 9 in Department of Obstetrics and Gynaecology. Preference given to applicant with previous experience. Married accommodation may be available. Post recognized for M.R.C.O.G. Applications, with two referees, to Secretary. (5455)

BANBURY AND DISTRICT HOSPITALS MANAGEMENT COMMITTEE

HOUSE SURGEON (Obstetrics and Gynaecology)

required December 1 for duty at Horton General and Horton Maternity Hospitals. Recognition for the D.Obst.R.C.O.G. is being sought. Applications, with copies of two recent testimonials or names of persons to whom reference may be made, to Secretary, Horton General Hospital, Banbury, Oxon. (5770)

BATH HOSPITAL MANAGEMENT COMMITTEE

HOUSE SURGEON (Gynaecology and Obstetrics)

required December 1, 1961, to the Bath Group of Hospitals. Post recognized for Diploma of the Royal College of Obstetricians and Gynaecologists. Applications, stating age, qualifications and experience, with three testimonials, to Group Secretary, Manor Hospital, Bath. (5803)

CITY GENERAL HOSPITAL, Stoke-on-Trent
(792 beds)

HOUSE SURGEON IN OBSTETRICS AND GYNAECOLOGY

Pre-registration, vacant end October. No casualty work. Recognized for F.R.C.S., M.R.C.O.G., and D.Obst.R.C.O.G. 100 maternity and 40 gynaecology beds. Ample experience. A six weeks' postgraduate course has been completed, and further courses are to be held. Applications to Hospital Secretary. (5804)

EDGWARE GENERAL HOSPITAL
Edgware, Middlesex

RESIDENT GYNAECOLOGICAL HOUSE SURGEON

for above hospital. Post vacant October 25, 1961. Recognized for M.R.C.O.G. Six months' appointment. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Administrator of Hospital by October 6, 1961. (5518)

EDGWARE GENERAL HOSPITAL
Edgware, Middlesex

THREE RESIDENT OBSTETRIC HOUSE SURGEONS

two for Edgware General Hospital, Edgware, Middlesex; one for Bushey Maternity Hospital, Bushey Heath, Herts. Six months' appointments. Posts vacant November 2, 1961, November 12, 1961, and November 3, 1961. Posts at Edgware recognized for M.R.C.O.G. Post at Bushey recognized for D.Obst.R.C.O.G. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Administrator of Edgware General Hospital, by October 6, 1961. (5517)

GLASGOW ROYAL MATERNITY HOSPITAL

ONE LOCUM RESIDENT HOUSE OFFICER

required for six months, commencing February 1, 1952, for duties at Royal Maternity, Ross, and Redlands Hospitals. Applications, with names of two referees, to Group Administrative Medical Officer, Glasgow Royal Maternity Hospital, Rottenrow, Glasgow C.4. (5905)

GLASGOW ROYAL MATERNITY HOSPITAL

TWO RESIDENT HOUSE OFFICERS

required for six months, commencing February 1, 1962. Applications, with names of two referees, to Group Administrative Medical Officer, Glasgow Royal Maternity Hospital, Rottenrow, Glasgow C.4. (5906)

HALIFAX AREA HOSPITALS MANAGEMENT COMMITTEE

HOUSE OFFICER IN OBSTETRICS AND GYNAECOLOGY

required for duty at the Halifax General Hospital and the Royal Halifax Infirmary. 100 obstetric and 40 gynaecological beds. Post recognized for D.(Obst.)R.C.O.G. Vacant November 1, 1961. National scales of salary applicable. Applications to Group Secretary, Royal Halifax Infirmary, Halifax. (5974)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

Obstetrics and Gynaecology—contd.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60 Grove End Road, London N.W.8

Applications are invited from pre-registration or registered medical practitioners (male) for the appointment of

HOUSE SURGEON

to the Midwifery and Gynaecological Department, shortly to become vacant. Appointment will be for a period of six months. National Health Service salary. Applications to the Secretary, together with copies of three recent testimonials. (5519)

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE

St. Mary's Hospital, Newport, I.W.

OBSTETRIC HOUSE OFFICER

(post-registration) required. Post vacant November 25, 1961. Married accommodation available. Post recognized for Diploma in Obstetrics. Salary at the rate of £825 per annum. Applications, with names of two referees, to Hospital Secretary by October 11. (5742)

LEEDS REGIONAL HOSPITAL BOARD

Recognized pre-registration posts will be available for the six months commencing November 1, 1961, in the following hospitals, approved under the Medical Act, 1950:

*Staincliffe General Hospital, Dewsbury (308 beds)—1 vacancy.

*Halifax General Hospital (425 beds)—1 vacancy.

* Recognized for M.R.C.O.G.

Application forms can be obtained from the Secretary to the Board, Park Parade, Harrogate, or from the Dean, School of Medicine, Thoresby Place, Leeds 2, and should be returned to either of the above-named as soon as possible. Application may be made in advance of results of final examination. Candidates wishing to apply for posts at more than one hospital should complete a separate form in respect of each hospital. (5805)

REDLANDS HOSPITAL FOR WOMEN, Glasgow

TWO RESIDENT HOUSE OFFICERS

(women graduates) required for six months, commencing February 1, 1962. Applications, with names of two referees, to Group Administrative Medical Officer, Glasgow Royal Maternity Hospital, Rottenrow, Glasgow C.4. (5907)

ROYAL BUCKINGHAMSHIRE AND ASSOCIATED HOSPITALS MANAGEMENT COMMITTEE, Aylesbury

HOUSE SURGEON

required for Department of Obstetrics and Gynaecology. Post tenable for one year, the first six months being spent in gynaecology at Stoke Mandeville Hospital, followed by six months in obstetrics at the Royal Buckinghamshire Hospital. Both posts recognized for M.R.C.O.G. Applications from fully registered practitioners, together with two testimonials or names for reference, to be sent to the Administrative Officer, Stoke Mandeville Hospital, as soon as possible. (5434)

OPHTHALMOLOGY

THE UNIVERSITY OF MANCHESTER

Applications are invited from persons with medical qualifications registrable in this country for the full-time post of

LECTURER IN OPHTHALMOLOGY

The successful candidate will be expected to carry out teaching duties and research in the University Department of Ophthalmology at the Manchester Royal Eye Hospital, and to assist in the clinical work of this unit. The Board of Governors of the United Manchester Hospitals may be prepared to negotiate an honorary contract as consultant with the person appointed. He would be required to commence his duties as soon as possible. Salary on a scale rising to £2,700; initial salary according to qualifications and experience. Membership of the F.S.S.U. and Children's Allowance Scheme. Applications should be submitted not later than October 21, 1961, to the Registrar, The University, Manchester 13, from whom further particulars and forms of application may be obtained. (5648)

LIVERPOOL REGIONAL HOSPITAL BOARD

The United Liverpool Hospitals

Applications are invited for the post of

WHOLE-TIME LOCUM SENIOR REGISTRAR IN OPHTHALMOLOGY

with duties at Broadgreen, Mill Road Maternity, and Alder Hey Children's Hospitals. The person appointed will be required from October 8, 1961, until December 9, 1961, inclusive. Applications, stating name, age, qualifications and details of previous appointments, together with the names of two referees, to be addressed to Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 55 Castle Street, Liverpool 2, as soon as possible—Vincent Collinge, Secretary to the Board. (5961)

BIRMINGHAM REGIONAL HOSPITAL BOARD

(a) WHOLE-TIME SENIOR REGISTRAR IN OPHTHALMOLOGY

Duties at Birmingham and Midland Eye Hospital. Must reside within 10 miles of hospital.

(b) WHOLE-TIME SENIOR REGISTRAR IN OPHTHALMOLOGY

Duties at Wolverhampton and Midland Counties Eye Infirmary (5/11ths), Guest Hospital, Dudley (2/11ths), Walsall General (Sister Dora) Hospital (2/11ths), and Staffordshire General Infirmary (2/11ths). Must reside within 10 miles of Wolverhampton.

Both posts higher qualification an advantage. Experience specialty essential. Successful applicants may subsequently be required to interchange posts for a period of not more than two years with a Senior Registrar in another Centre in the Region. Application forms from Secretary, 10 Augustus Road, Birmingham 15, to be returned by October 16, 1961. Candidates may visit hospitals concerned. (5806)

THE UNITED LIVERPOOL HOSPITALS

St. Paul's Eye Hospital

Applications are invited for a post of

REGISTRAR IN OPHTHALMOLOGY

for the period to September 30, 1962. Annual reappointment thereafter until completion of the normal period of training will be considered without need for further application. Person appointed may be required to sleep in the hospital on his nights on duty. Apply, by October 14, 1961, on form obtainable from the Secretary, 80 Rodney Street, Liverpool 1. (5948)

COVENTRY AND WARWICKSHIRE HOSPITAL
Coventry (418 beds)

SENIOR HOUSE OFFICER IN OPHTHALMOLOGY

Vacant November 4, 1961. Resident. Recognized D.A. and F.R.C.S. (Ophthalmology). Provides excellent experience in in- and out-patient work. Applications to Hospital Secretary. (5457)

EXETER AND MID-DEVON HOSPITALS MANAGEMENT COMMITTEE

West of England Eye Infirmary, Exeter (62 beds)

Applications are invited from registered medical practitioners for the appointment of

SENIOR HOUSE OFFICER (Ophthalmology)

Resident or non-resident. The post is recognized for the F.R.C.S. examination. Vacant October 12, 1961. Applications, with copies of two recent testimonials, to the Hospital Secretary. (5883)

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent

SENIOR HOUSE OFFICER (Ophthalmology)

required. Recognized F.R.C.S. and D.O. A six weeks' postgraduate course has been completed and it is proposed to provide further courses. Applications, with copy testimonials, to Hospital Secretary. (5435)

SWINDON AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

HOUSE OFFICER (Ophthalmology)

Applications are invited for the above post, vacant from November 7. Duties include out-patient department work at Princess Margaret Hospital and in-patients at Victoria Hospital (14 beds). Residential accommodation may be provided. Post recognized for F.R.C.S. and D.O. Applications, stating age and experience, with the names and addresses of three referees, to the Group Secretary, 7 Okus Road, Swindon, as soon as possible. (5807)

ORTHOPAEDICS

EAST ANGLIAN REGIONAL HOSPITAL BOARD

ORTHOPAEDIC REGISTRAR

Ipswich and East Suffolk Hospital. Post provides excellent training in orthopaedic surgery. Appointment for one year, renewable for second year. Applications, stating age, experience, and names of two referees, to S.A.M.O., 117 Chesterton Road, Cambridge, by October 16, 1961. Candidates invited to visit hospital by direct arrangement with H.M.C. Secretary, Broughton House, Broughton Road, Ipswich. (5833)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Black Notley Hospital, near Braintree, Essex

ORTHOPAEDIC REGISTRAR

required. Resident or non-resident. Post tenable for one or two years, subject to review after one year. Recognized for F.R.C.S. Duties include care of skeletal tuberculosis, rheumatoid arthritis, spastic paralysis, limited general orthopaedic and renal tuberculosis. Application forms from Group Secretary, Colchester Group Hospital Management Committee, 14 Pope's Lane, Colchester, Essex. (5922)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
234 Great Portland Street, London W.1

Applications are invited for the appointment of

SENIOR ORTHOPAEDIC REGISTRAR

(Full-time) non-resident. Duties to commence January 1, 1962. Applicants must be Fellows of one of the Royal Colleges of Surgeons. During the tenure of office six months may be spent at the Luton and Dunstable Hospital and six months at the Hospital for Sick Children, Great Ormond Street. Applications to be received not later than October 23, 1961. Forms of application can be obtained from the House Governor, 234 Great Portland Street, London W.1. (5985)

ST. GEORGE'S HOSPITAL, S.W.1
and REDHILL HOSPITAL GROUPS
(Joint appointment)

Applications are invited for the two posts of

ORTHOPAEDIC REGISTRAR

to the St. George's Hospital Group and to the Redhill Group of Hospitals. The appointment will be held for one year at the St. George's Hospital Group and one year at the Redhill Group of Hospitals, interchanging for the second year. Married accommodation is likely to be available at both ends. Possession of the Diploma of F.R.C.S. (Eng.) will be an advantage, and the successful candidates will be required to take up duty on January 1, 1962. Applications, stating age, education, qualifications and experience, together with the names and addresses of two referees, should reach the undersigned not later than October 21, 1961.—P. H. Constable, House Governor. (5897)

WOOLWICH GROUP HOSPITAL MANAGEMENT COMMITTEE

LOCUM TENENS ORTHOPAEDIC REGISTRAR required for period October 2 to 29. Remuneration £25 per week. Apply to Group Secretary, Memorial Hospital, Woolwich, S.E.18 (WOOlwich 2670). (5986)

BATH HOSPITAL MANAGEMENT COMMITTEE

HOUSE SURGEON (Orthopaedic)

required at Bath and Wessex Orthopaedic Hospital on November 6, 1961. (Grade S.H.O. or H.O., according to experience.) Experience available: cold orthopaedics (including children), surgery of arthritis, and traumatic surgery. The post is recognized for pre-registration purposes and under F.R.C.S. regulations. Applications, stating age, qualifications and experience, with names of two referees, to Group Secretary, Manor Hospital, Bath. (5808)

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry (418 beds)

SENIOR HOUSE OFFICER IN TRAUMATIC AND ORTHOPAEDIC SURGERY

Recognized F.R.C.S. Resident or non-resident. Vacant October 30. Applications to Hospital Secretary. (5771)

DERBYSHIRE ROYAL INFIRMARY, Derby
(412 beds)

SENIOR HOUSE OFFICER (Orthopaedic)

Resident. Vacant mid-October. Busy department of 52 beds and approximately 28,000 out-patient attendances per annum. Apply, stating full details and two names for reference, to Secretary. (5772)

IPSWICH AND EAST SUFFOLK HOSPITAL

Anglesea Road Wing (351 beds)

Applications are invited for the post of

SENIOR HOUSE SURGEON

to the Fracture and Orthopaedic Department. The post is graded Senior House Officer, and is recognized for the F.R.C.S. examinations. The department has about 60 beds and a large out-patient attendance; it offers wide experience. Excellent library facilities available. Applications, stating age, nationality and experience, together with copies of recent testimonials, to Hospital Secretary. (5773)

KENT AND SUSSEX HOSPITAL
Tunbridge Wells

S.H.O. (Orthopaedics)

Locum required for last two weeks in October. Apply, with names of two referees, to Group Secretary, Tunbridge Wells Group Hospital Management Committee, Sherwood Park, Pembury Road, Tunbridge Wells. (5980)

MOUNT GOLD ORTHOPAEDIC HOSPITAL
Plymouth

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER

in the Orthopaedic Fracture Service centred on the above hospital of 150 beds, which becomes vacant early in November. Post recognized for F.R.C.S. examination. Furnished married accommodation available. Applications, stating age, qualifications and experience, together with names and addresses of two referees, to be made to the Hospital Secretary, Mount Gold Hospital, Plymouth, Devon. (5872)

Orthopaedics—contd.

NOTTINGHAM NO. 1 HOSPITAL MANAGEMENT COMMITTEE

General Hospital Nottingham (467 beds)

SENIOR HOUSE OFFICER
(Orthopaedic and Fracture)

required with duties commencing late September, 1961. The post offers exceptional experience of traumatic and orthopaedic surgery with responsibilities under supervision in accident and orthopaedic wards (66 beds), also accident, orthopaedic out-patient and physiotherapy clinics. The accident experience is very extensive as cases treated include domestic, industrial, road and coal-mining injuries. The experience available includes head and spinal injuries. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the Group Secretary. (5393)

OLDHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Oldham and District General Hospital

APPOINTMENT OF RESIDENT SENIOR HOUSE OFFICER (Orthopaedics)
Recognized for F.R.C.S.

Applications are invited for the appointment of Senior House Officer in the Fracture and Orthopaedic Service. Applications should be forwarded to the Group Secretary, Central Offices, Rochdale Road, Oldham, quoting Ref. No. J/9. (5508)

ROYAL GWENT HOSPITAL, Newport, Mon (247 beds) (Recognized F.R.C.S.)

SENIOR HOUSE OFFICER

required for the Traumatic and Orthopaedic Unit at the beginning of October. The hospital has a modern self-contained Fracture and Orthopaedic Unit with its own theatre, x-ray and out-patient clinics. Duties are mainly traumatic. Post recognized for F.R.C.S. for six months and tenable for six or 12 months as desired. No married accommodation. Apply, quoting two referees, to T. A. Jones, Group Secretary, 64 Cardiff Road, Newport, Mon. (5167)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL 234 Great Portland Street, London W.1

Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for a period of six months. Duties to commence December 6, 1961. Applications to be received by October 23, 1961. Forms of application can be obtained from the House Governor, 234 Great Portland Street, London W.1. (5984)

ST. ALFEGE'S HOSPITAL, S.E.10
(Recognized for F.R.C.S. examination)

RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic and General Surgery)

from early November. Six months' appointment (renewable). Write, with testimonials, to Group Secretary, G. and D. H.M.C., at hospital. (5861)

WAR MEMORIAL HOSPITAL
High Wycombe, Bucks (96 beds)

SENIOR HOUSE OFFICER (Orthopaedics)

required at this busy hospital, within easy reach of London, from middle of October. Recognition by R.C.S. pending. Applications, with three referees, to Secretary forthwith. (5774)

BRIGHTON GENERAL HOSPITAL

HOUSE SURGEON (Orthopaedics)

Applications are invited for the above pre-registration appointment. Vacant November 1, 1961. Applications, enclosing recent testimonials, and stating age, qualifications, experience, and giving the names of two referees, should be sent to the Physician Superintendent, Brighton General Hospital, Elm Grove, Brighton. (5532)

OTOLARYNGOLOGY

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

CONSULTANT E.N.T. SURGEON

required for four half-days a week at West Herts Hospital (167 beds), including one half-day a month at Leavesden Hospital (subnormality). Hospitals may be visited by direct appointment. Application forms obtainable from Secretary, North-West Metropolitan Regional Hospital Board, 40 Eastbourne Terrace, W.2. Returnable before October 30, 1961. (5967)

FARNBOROUGH HOSPITAL, Kent (740 beds)

LOCUM SENIOR REGISTRAR IN E.N.T.

required beginning of October for one year. Apply Hospital Secretary. (5957)

OXFORD REGIONAL HOSPITAL BOARD

REGISTRAR (whole-time) IN E.N.T. SURGERY

at Northampton General Hospital (545 beds). Modern E.N.T. unit of 38 beds with separate operating theatre. Residence optional. Previous experience essential. The appointment will be for one year, eligible for extension to two years. Vacant January 1, 1962. Applications, on forms obtainable from the Secretary, Registrars Committee, 43 Banbury Road, Oxford, should reach him by October 9, 1961. (5411)

THE ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, London W.C.1, and Golden Square, W.1

Applications are invited for a post of
SENIOR REGISTRAR

Applicants must have had considerable experience in general surgery and in this specialty, and must hold a higher surgical qualification. Applications, giving full information, and the names of two referees, should be sent to the House Governor by October 6, 1961. (5585)

WELSH HOSPITAL BOARD

REGISTRAR IN E.N.T. SURGERY

Mid-Glamorgan H.M.C. Based at Neath General Hospital, with visits to other hospitals in the group. Recognized for D.L.O. and F.R.C.S. examinations. Resident/non-resident. Subject to review end of first year. Application forms (12 copies) from S.A.M.O., Temple of Peace and Health, Cathays Park, Cardiff. (5643)

WEST BROMWICH GROUP

REGISTRAR (E.N.T. Surgery)

Duties at West Bromwich General Hospital (144 beds) and Hallam Hospital (430 beds). Special peripheral allowance of £100 per annum. Experience specialty an advantage. Facilities for all types of otolaryngological operations. Suitable for working for Primary Fellowship. Resident or non-resident. Married quarters available. Application forms, from Group Secretary, West Bromwich and District General Hospital, Edward Street, West Bromwich, to be returned by October 9, 1961. Candidates may visit hospitals. (5834)

KENT AND CANTERBURY HOSPITAL
Canterbury (277 beds)
Ear, Nose and Throat and Eye Departments

SENIOR HOUSE OFFICER

N.H.S. salary and conditions. Post vacant now. Approved for F.R.C.S. and special diplomas. Applications, together with copies of two recent testimonials, to be addressed to the Hospital Secretary at the above hospital. (5321)

ROTHERHAM HOSPITAL, Yorkshire (161 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER
(E.N.T. and Eye Departments)

With E.N.T. duties at the Moorgate General Hospital. This is a peripheral post qualifying for the payment of an additional £100 per annum. Applications, stating age, qualifications and experience, together with the names of referees, should be sent to the Hospital Secretary, Rotherham Hospital, Doncaster Gate, Rotherham, as soon as possible. (5394)

ROYAL ALEXANDRA INFIRMARY ANNEXE
Paisley
Ear, Nose and Throat Unit

Applications are invited for the post of
SENIOR HOUSE OFFICER

for the above unit. This is a completely new unit, equipped to modern standards. Applicants, who should be fully registered medical practitioners, should submit applications, in duplicate, to Group Medical Superintendent, Royal Alexandra Infirmary, Paisley, and should give the names of two referees. (5996)

ROYAL SUSSEX COUNTY HOSPITAL
Eastern Road, Brighton 7

HOUSE SURGEON

(S.H.O. grade), one of two, required October 12, 1961, in the E.N.T. Department of the Brighton and Lewes Hospital Management Committee Group Hospitals (72 beds). Recognized for D.L.O. and F.R.C.S. Applications, stating age, qualifications, experience, and naming two referees, to the Administrative Officer. (5073)

THE ROYAL HOSPITAL, Wolverhampton

SENIOR HOUSE SURGEON
(E.N.T. Department)

Post recognized for the D.L.O. and F.R.C.S. examinations. Vacant immediately. Apply, with copies of two testimonials, to the Hospital Secretary. (5145)

SOUTH WARWICKSHIRE HOSPITAL GROUP

HOUSE SURGEON (Ear, Nose and Throat)

resident, required for work at Warwick Hospital (263 beds) and Warneford Hospital (211). Affords wide experience in all aspects of E.N.T. surgery. Post recognized for F.R.C.S. and D.L.O. Applications, with two referees, to Hospital Secretary, Warwick Hospital. (5839)

PAEDIATRICS

NORTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

Applications are invited from medical practitioners for the full-time post of
SENIOR REGISTRAR IN MEDICAL PAEDIATRICS
at the Royal Hospital for Sick Children, Aberdeen. Experience in the specialty is required and a higher qualification will be an advantage. Applications, together with the names and addresses of two referees, should be forwarded, by November 4, 1961, to the Senior Administrative Medical Officer, 1 Albyn Place, Aberdeen, from whom further particulars and a form of application may be obtained. (5944)

THE UNITED OXFORD HOSPITALS

LOCUM SENIOR REGISTRAR

to the Paediatric Department, to start on January 1, 1962. The work is mainly at the Radcliffe Infirmary, and includes considerable neonatal experience and teaching duties. Applications, on forms obtainable from the Administrator, the Radcliffe Infirmary, Oxford, should be received not later than October 14, 1961. (5835)

WINDSOR GROUP HOSPITAL MANAGEMENT COMMITTEE

PAEDIATRIC REGISTRAR

resident, required for King Edward VII Hospital, Old Windsor Unit. Experience in paediatrics essential. Post recognized for D.C.H. Opportunities to gain experience in neonatal care. Some duties at other hospitals in the area at Slough, Maidenhead, etc. Application forms obtainable from, and returnable to, Secretary, Windsor Hospital Management Committee, Alma Road, Windsor, by October 5. (5809)

BRADFORD CHILDREN'S HOSPITAL
Bradford, Yorkshire

SENIOR HOUSE OFFICER (Paediatrics)

required November 15, 1961. Post recognized for D.C.H. Applications, stating qualifications, experience, etc., together with copy testimonials, to the Secretary, Royal Infirmary, Bradford. (5930)

SOUTHAMPTON CHILDREN'S HOSPITAL

Royal Hants County Hospital, Winchester
(Paediatric Unit)
(Recognized by Conjoint Board for D.C.H.)
(Establishment, one Registrar, five Senior House Officers)

TWO RESIDENT SENIOR HOUSE OFFICER

vacancies, commencing November 14, 1961. Appointments will normally be for two consecutive periods of six months. Wide experience in all branches of paediatrics. Preference will be given to candidates intending to specialize in paediatrics. Applications, stating full details, together with copies of two recent testimonials, to be forwarded to the Hospital Secretary, Southampton Children's Hospital, Winchester Road, Southampton, by October 14, 1961. (5952)

TAUNTON AND SOMERSET HOSPITAL

SENIOR HOUSE OFFICER (Paediatrics)

required, post vacant November 1, 1961. Recognized for D.C.H. This post offers wide experience of both general and neonatal paediatrics in the wards and out-patients department of a busy area hospital. Previous experience of paediatrics is desirable, but lack of it will not exclude the right candidate. Applications should be made by October 7, and should be sent, with the names of two referees, to the Group Secretary, Musgrove Park Hospital, Taunton, Somerset. (5810)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London W.C.1

There will be vacancies for
TWO HOUSE PHYSICIANS
(S.H.O. grade), one on December 15, 1961, the other on January 1, 1962. Further particulars and application forms, to be returned by October 16, 1961, obtainable from the House Governor. (5953)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London W.C.1

There will be a vacancy on December 13, 1961, for an
ASSISTANT RESIDENT MEDICAL OFFICER
(S.H.O. grade) at Tadworth Court Branch Hospital, Tadworth, Surrey. The post is for six months, after which the occupant will normally be appointed as Resident Medical Officer on the Registrar grade for a further six months. Further particulars and application forms, to be returned by October 16, 1961, obtainable from the House Governor. (5954)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

Paediatrics—contd.

GLASGOW ROYAL MATERNITY HOSPITAL

RESIDENT HOUSE OFFICER
required for Paediatric Unit for six months, commencing February 1, 1962. Applications, with names of two referees, to Group Administrative Medical Officer, Glasgow Royal Maternity Hospital, Rottenrow, Glasgow C.4. (5904)

LITTLE BROMWICH GENERAL HOSPITAL
Birmingham 9

PAEDIATRIC HOUSE PHYSICIAN
(Male/female.) Vacant November 1. Recognized for D.C.H. and full facilities available for attending the necessary clinics. Includes duties on infectious diseases wards, neonatal department, and clinic. Applications to Physician Superintendent, together with copies of two testimonials. (5413)

PATHOLOGY

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry (418 beds)

REGISTRAR (Pathology)
Non-resident. Vacant October 1. Experience essential. Higher qualifications desirable. Application forms, from Group Secretary, to be returned by October 9, 1961. Candidates may visit hospital. (5836)

INSTITUTE OF UROLOGY, IN ASSOCIATION WITH ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS, W.C.2

Applications invited for the appointment of
REGISTRAR OR SENIOR REGISTRAR IN PATHOLOGY
to assist with routine morbid anatomy in the Central Laboratory, St. Paul's Hospital. Opportunities for research. Appointment for one year in the first instance. Applications to the Pathologist, St. Paul's Hospital, London W.C.2. (5949)

LEEDS REGIONAL HOSPITAL BOARD

Applications invited for the appointment of
REGISTRAR IN PATHOLOGY
at hospitals in the Wakefield (B) and Menston Groups. Non-resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by October 5, 1961. (5811)

ROYAL MARSDEN HOSPITAL
Fulham Road, S.W.3

LOCUM FULL-TIME PATHOLOGIST
Registrar or S.H.M.O. grade, required for about six months, to take up duties immediately. Applications, on a form obtainable from the House Governor, to be submitted as soon as possible. (5898)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Lambeth Hospital, Brook Drive, S.E.11

REGISTRAR IN PATHOLOGY
Recognized for D.Path. Two-year appointment, subject to annual review. Vacant immediately. Application forms, from Secretary, Lambeth Group H.M.C., Renfrew Road, S.E.11, to be returned by October 9, 1961. (5747)

BOARD OF MANAGEMENT FOR GLASGOW ROYAL INFIRMARY AND ASSOCIATED HOSPITALS

SENIOR HOUSE OFFICER IN PATHOLOGY
Duties at Glasgow Royal Infirmary. Apply in writing, giving three names for reference, to the Secretary, Glasgow Royal Infirmary, 84 Castle Street, Glasgow C.4, not later than October 13, 1961. (5989)

PLYMOUTH AND DISTRICT H.M.C.

RESIDENT SENIOR HOUSE OFFICER IN PATHOLOGY
required. The post is vacant immediately and recognized for the non-university experience for D.Path., R.C.P. and S. The appointment is in the Area Laboratory at the South Devon and East Cornwall Hospital, Greenbank Road, Plymouth, which provides excellent modern working facilities. Applications, with full details and names and addresses of three referees, to the Group Secretary, 7 Nelson Gardens, Plymouth, as soon as possible. (5221)

ROYAL GWENT HOSPITAL
Newport, Mon (247 beds)

SENIOR HOUSE OFFICER IN PATHOLOGY
required. Non-resident. The successful candidate will receive a thorough training from the Consultant, and previous experience in the specialty is unnecessary. Post tenable for 12 months. Apply, giving two referees, to T. A. Jones, Group Secretary, 64 Cardiff Road, Newport, Mon. (5438)

THE UNITED SHEFFIELD HOSPITALS

Applications invited for the post of
RESIDENT SENIOR HOUSE OFFICER IN CLINICAL PATHOLOGY
Vacant October 16, 1961. Pathological experience not essential, but candidate must have previous clinical experience. Successful candidate will work in different branches of clinical pathology in the laboratories of the United Sheffield Hospitals. Applications, with the names of three referees, should be sent to the Superintendent, Royal Infirmary, Sheffield 6, not later than October 7, 1961. (5997)

PHYSICAL MEDICINE

ST. HELIER HOSPITAL, Carshalton, Surrey (763 beds)

REGISTRAR
in Department of Physical Medicine (non-resident)
Recognized for Part II of D.Phys.Med. Post vacant now. Forms of application, returnable by October 7, from the Group Secretary at above address. (5812)

PSYCHIATRY

SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of a **WHOLE-TIME CONSULTANT PSYCHIATRIST** to hospitals for the subnormal in the Stoke Park (1,818 beds) and Hortham/Brentry (1,432 beds) Hospital Groups. Applicants must possess a higher qualification. Applications (12 copies), stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 27 Tyndalls Park Road, Bristol 8, not later than October 21, 1961. (5923)

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS, Richmond, Surrey

South-West Metropolitan Regional Hospital Board

REGISTRAR IN PSYCHOTHERAPY
required December 1. Candidates must be psychiatrists with special interest in psycho-analysis and experience in psychotherapy. Hospital may be visited by appointment. Application forms, from Group Secretary, Cassel Hospital, Ham Common, Richmond, Surrey, to be returned by October 21. (5884)

EAST ANGLIAN REGIONAL HOSPITAL BOARD

REGISTRAR IN PSYCHIATRY
Fulbourn Hospital and Addenbrooke's Hospital, Cambridge. Joint appointment by Regional Hospital Board and Board of Governors of the United Cambridge Hospitals. Trainee post which provides full facilities for clinical work with all types of patients and study for D.P.M. The successful candidate will work initially at Fulbourn Hospital, and later also undertake duties at Addenbrooke's Hospital. Appointment for one year, renewable for second year. Applications, stating age, experience, and names of two referees, to S.A.M.O., 117 Chesterton Road, Cambridge, by October 16, 1961. Candidates invited to visit hospitals by direct arrangement with Medical Superintendent, Fulbourn Hospital. (5813)

LEEDS REGIONAL HOSPITAL BOARD

Applications invited for the following Registrar appointments in Psychiatry:

(a) Oulton Hall Hospital, near Wakefield, and affiliated Mental Subnormality Hospitals (approximately 407 beds). Non-resident. Married quarters available. This is a peripheral post qualifying for the payment of an additional £100 per annum.

(b) Menston Hospital. This is an active psychiatric hospital situated in Wharfedale some nine miles from Leeds. The number of admissions last year was 1,145. The hospital has extensive out-patient commitments and a day hospital is to be opened in the near future. Resident. Single accommodation available.

Candidates may visit the hospitals by direct arrangement with the Physician Superintendent thereof, who will be pleased to supply further information.

Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by October 5, 1961. (5814)

MANCHESTER REGIONAL HOSPITAL BOARD

Preston and Chorley Hospital Management Committee
Sharoe Green Hospital (375 beds)

REGISTRAR IN PSYCHIATRY
required. Main duties at Sharoe Green Hospital (100 psychiatric beds), with out-patient clinics at other hospitals in the group. Post now vacant. Application forms obtainable from Group Secretary, Royal Infirmary, Preston, Lancs. (5775)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Hill End Hospital (740 beds), St. Albans, Herts

WHOLE-TIME PSYCHIATRIC REGISTRAR
required. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, Mid-Herts Group Hospital Management Committee, Bleak House, Catherine Street, St. Albans, by October 16, 1961. (5815)

OXFORD REGIONAL HOSPITAL BOARD

REGISTRAR IN PSYCHIATRY
To Reading Area Department of Psychiatry with duties at Fair Mile Hospital and associated clinics in Reading where there is also a Day Hospital. The hospital is recognized for the D.P.M. Post vacant November 1. Appointment for one year in the first instance, renewable for a second year. Applications (10 copies), on forms obtainable from the Secretary, Registrars Committee, 43 Banbury Road, Oxford, should reach him by October 9, 1961. (5415)

SHEFFIELD REGIONAL HOSPITAL BOARD

WHOLE-TIME SENIOR REGISTRAR
(Psychiatry)
required, Pastures Hospital, Mickleover, near Derby. Possession of a D.P.M. or higher qualification desirable. House available. Appointment for one year in first instance, renewable annually. Opportunity for research and experience in all branches of psychiatry in the hospital area. Application forms, and further details, from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield. Forms to be returned by October 9, 1961. (5442)

WIGAN AND LEIGH HOSPITAL MANAGEMENT COMMITTEE

REGISTRAR
to the Department of Psychological Medicine at Billinge Hospital, near Wigan
A wide experience available in both in-patient and out-patient psychiatric work in general hospitals of this group, under the direction of the Consultant Psychiatrist. Recognized for D.P.M., and full facilities will be provided for attending D.P.M. courses, etc. Applications, with names of two referees, to Group Secretary, Knowsley House, Wigan, as soon as possible. (5958)

AYCLIFFE PSYCHIATRIC HOSPITAL
Heighington, near Darlington, Co. Durham

LOCUM HOSPITAL MEDICAL OFFICER
required immediately until October 5, 1961, at the above hospital. Salary £25 per week, less an amount of £4 2s. 6d. per week in respect of residential accommodation. Applications to the Medical Superintendent.—J. Farrow, for Group Secretary. (5885)

BOARD OF MANAGEMENT FOR THE LOWER BANFFSHIRE HOSPITALS

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
for Ladysbridge Hospital, Banff, which at present accommodates 225 adult mental defectives and is undergoing development to at least twice that size. Applications, with the names and addresses of two referees, should be sent to the Group Secretary, St. Catherines, Banff, by October 13, 1961, from whom further particulars may be obtained. (5570)

CALDERSTONES HOSPITAL MANAGEMENT COMMITTEE

Calderstones Psychiatric Hospital for the Mentally Subnormal (2,378 beds), Whalley, near Blackburn, Lancs.

Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary scale £1,100 by £60 (8) to £1,580 per annum. Residential quarters are available for either single or married applicants. Library facilities are provided. No previous experience of mental or psychopathic disorders or subnormality necessary. The post will give valuable experience to a practitioner who has the necessary experience after full registration and who is proposing to study for the D.P.H. or D.P.M. Applications, stating age, qualifications and experience, together with the names and addresses of three referees, to be submitted to the Medical Superintendent, Calderstones Hospital, Whalley, near Blackburn, as soon as possible. (5926)

Psychiatry—contd.

MORGANNWG HOSPITAL, Bridgend

APPOINTMENT OF JUNIOR HOSPITAL MEDICAL OFFICER

Applications are invited for the above post at this hospital, to which there is an admission rate of well over 1,400 patients annually, and which is responsible for extensive domiciliary and out-patient services throughout the County. The hospital possesses very full facilities for all modern methods of investigation and treatment. The post provides excellent opportunities for study for D.P.M., and staff in training are expected to attend the tutorials in psychology, psychiatry, and neurology regularly carried out by the senior staff, in addition to attending the clinical conferences, etc. Considerable use is made of films for training purposes. A child guidance clinic is closely associated with the hospital. Married accommodation is available. Applications, giving full details of qualifications and experience, together with the names and addresses of two referees, to be sent to the Group Secretary, Morgannwg Hospital, Bridgend. (5990)

ST. DAVID'S HOSPITAL, Carmarthen

LOCUM JUNIOR HOSPITAL MEDICAL OFFICER

required immediately for several months. Good experience in psychiatry offered. Applications to Medical Superintendent. (5908)

ST. LAWRENCE'S HOSPITAL MANAGEMENT COMMITTEE

St. Lawrence's (Psychiatric) Hospital, Bodmin, Cornwall

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER

Health Service salary scale £1,100 by £60 (8) to £1,580 per annum, plus £50 per annum allowance under H.M.(60)89 for posts in peripheral hospitals, and with incremental concessions for special experience and qualifications. A modern semi-detached three-bedroomed house is available at a moderate rental for a married applicant, and accommodation within the hospital could be arranged for a single man. Plans for the development and modernization of this hospital are in operation, and there is full scope for the study and practical participation in all treatment of mental illness with frequent attendance at out-patient clinics. Details of the appointment and application forms from the undersigned.—W. S. Smith, Group Secretary/Finance Officer. (5909)

SCALEBOR PARK HOSPITAL
Burley-in-Wharfedale

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER

(male or female), at Scalebor Park, a modern hospital of 396 beds (Health Service, amenity and private), for the active treatment of nervous and mental disorders. The hospital is associated with the Department of Psychiatry of Leeds University, and facilities will be granted for attending the D.P.M. course. The salary is in accordance with Whitley Council scales. A council house is available within easy reach of the hospital grounds. Applications to the Physician Superintendent immediately. (5175)

THE LAWN HOSPITAL, Lincoln
(100 beds for psychiatric and nervous disorders)

RESIDENT JUNIOR HOSPITAL MEDICAL OFFICER

All modern forms of treatment given to in-patients and out-patients. Very happy atmosphere. Good accommodation for resident J.H.M.O. and family. Applications, with copies of at least three testimonials, as soon as possible, addressed to the Medical Superintendent. (5755)

ST. GEORGE'S HOSPITAL, Stafford

JUNIOR HOSPITAL MEDICAL OFFICER AND SENIOR HOUSE OFFICER

required immediately. Appointments offer widest experience in all branches of psychiatry. Hospital a progressive one (1,238 beds) with annexe for private patients. Serves large area. Associated clinics at neighbouring general hospitals with an active observation in-patient and out-patient unit at Wolverhampton now undergoing development and expansion. Hospital recognized for D.P.M. and opportunity provided for study leave. Applications, with names of two referees, to Medical Superintendent. (5535)

FULBOURN HOSPITAL, Cambridge

SENIOR HOUSE OFFICER

Training post with varied clinical experience, also work at Addenbrooke's Hospital. Seminars and lectures preparatory for all parts of D.P.M. under auspices of University of Cambridge Postgraduate Medical School. Resident or non-resident. Applications (with names of two referees), and any enquiries, should be made to the Medical Superintendent, Fulbourn Hospital, within fourteen days of this advertisement. (5414)

GOODMAYES HOSPITAL, Ilford, Essex

Applications are invited for the post (available mid-October) of
SENIOR HOUSE OFFICER

preferably resident, at the above hospital. The post offers wide experience in all aspects of psychiatry. Applications, giving details of age, qualifications, and previous experience, together with the names of three referees, should be sent to the Group Secretary. (5549)

THE MIDDLESEX HOSPITAL, W.1

Applications invited for the post of
SENIOR HOUSE OFFICER

at St. Luke's-Woodside Hospital, N.10, vacant November. This is the In-patient Department of Psychological Medicine of the Middlesex Hospital, and is recognized for part of the training for the D.P.M. examination. Forms of application, obtainable from the Deputy Superintendent, the Middlesex Hospital, should be returned, naming two referees, by October 12. (5965)

RADIOLOGY

BIRMINGHAM REGIONAL HOSPITAL BOARD

Whole-time or maximum part-time (nine n.h.d. weekly)
CONSULTANT RADIOLOGIST

Duties mainly at Little Bromwich General Hospital, Birmingham, also at Solihull Hospital (two n.h.d.), and hospitals in the Birmingham (Sanatoria) group (2-3 n.h.d.). Wide experience diagnostic radiology and higher qualification required. Successful applicant will be in charge of the Department at Little Bromwich and the Sanatoria group hospitals, and must reside within 10 miles Little Bromwich Hospital. Fifteen copies application, naming three referees, to Secretary, 10 Augustus Road, Birmingham 15, by October 30, 1961. Candidates may visit hospitals. (5776)

MANCHESTER REGIONAL HOSPITAL BOARD

Additional whole-time or maximum part-time
CONSULTANT RADIOLOGIST

to the Salford Group of Hospitals (Salford Royal, Hope, and Royal Manchester Children's Hospitals, etc.). Wide experience and higher qualifications essential. Appointee to live in or near Salford. Application forms, from the Senior Administrative Medical Officer to the Board, Cheetwood Road, Manchester 8, to be returned not later than October 17, 1961. (5934)

THE MIDDLESEX HOSPITAL, W.1

Applications invited for the whole-time post of
FIRST ASSISTANT

(graded as S.H.M.O.) to the Department of X-day Diagnosis. Rules and application forms, obtainable from the Deputy Superintendent, should be returned, naming two referees, by October 12. (5966)

RADIOTHERAPY

LIVERPOOL REGIONAL HOSPITAL BOARD

Liverpool Regional Radiotherapy Service

Applications are invited for the post of
REGISTRAR IN RADIOTHERAPY

with duties at Clatterbridge Hospital West, where a Linear Accelerator is installed, and also at the Liverpool Radium Institute. Preference will be given to applicants in possession of the D.M.R.T., or an equivalent qualification. Forms of application, from Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 55 Castle Street, Liverpool 2, to be returned not later than October 14, 1961.—Vincent Collinge, Secretary to the Board. (5962)

SURGERY

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

CONSULTANT GENERAL SURGEON

six half-days a week at Willesden General Hospital, Harlesden Road, N.W.10 (126 beds). Hospital may be visited by direct appointment. Application forms obtainable from Secretary, North-West Metropolitan Regional Hospital Board, 40 Eastbourne Terrace, W.2. Returnable before October 31, 1961. (5968)

SHEFFIELD REGIONAL HOSPITAL BOARD

CONSULTANT GENERAL SURGEON
(Whole-time or maximum part-time)

required for Rotherham and Mexborough hospitals. Application forms and further details from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield. Forms to be returned by October 28, 1961. (5777)

BIRMINGHAM REGIONAL HOSPITAL BOARD

(1) Stoke-on-Trent Group, Princes Road, Stoke-on-Trent.
SURGICAL REGISTRAR

for North Staffordshire Royal Infirmary (451 beds). Duties to combine Assistant R.S.O. with some casualty supervision. Casualty Officer (S.H.O.) employed. Higher qualifications desirable. Post recognized F.R.C.S. Resident/non-resident. Six weeks' postgraduate course recently completed, further courses proposed.

(2) West Bromwich and District Hospitals Group, West Bromwich and District General Hospital, Edward Street, West Bromwich.
SURGICAL REGISTRAR

for West Bromwich and District General Hospital (144 beds), to work with whole-time Consultant Accident Surgeon. Post recognized F.R.C.S. Offers wide experience in development of comprehensive traumatic and casualty unit. Resident. Higher qualification an advantage. Appointee will deputize for R.S.O.

Application forms, from Group Secretaries, to be returned by October 9, 1961. Candidates may visit hospitals concerned. (5837)

BOARD OF MANAGEMENT FOR MOTHERWELL, HAMILTON AND DISTRICT HOSPITALS

Stonehouse Hospital, Lanarkshire (500 beds)

Applications invited for appointment, for one year in first instance, as whole-time
REGISTRAR IN GENERAL SURGERY

to Stonehouse Hospital, Lanarkshire (60 beds in Surgical Unit). Applications, stating age, qualifications, experience (with relevant dates), and names and addresses of two referees, to reach the Secretary, Board of Management for Motherwell, Hamilton and District Hospitals, Strathclyde Hospital, Motherwell, by October 14, 1961. (5935)

BOARD OF MANAGEMENT FOR STIRLING AND CLACKMANNAN HOSPITALS

Applications are invited for the post of
REGISTRAR IN GENERAL SURGERY

based at Stirling Royal Infirmary. Applications (four copies), stating date of birth, qualifications, experience, present appointment, and the names of three persons to whom reference can be made, should be sent to the Group Medical Superintendent, Royal Infirmary, Stirling. (5881)

HILLINGDON HOSPITAL
Uxbridge, Middlesex (667 beds)

SENIOR REGISTRAR IN GENERAL SURGERY

Open to candidates from the Commonwealth who hold a higher surgical qualification and intend to return to their own country. Duration two years, subject to satisfactory report at end of first year. Hospital may be visited by appointment. Application forms available from, and returnable to, Group Secretary, Uxbridge Group Hospital Management Committee, Hillingdon Hospital, Uxbridge, Middlesex, by October 10. (5816)

MANCHESTER REGIONAL HOSPITAL BOARD

Bury and Rossendale Hospital Management Committee

Applications are invited for the post of
REGISTRAR IN GENERAL SURGERY

at the above hospital. The post is recognized for the F.R.C.S., and is vacant mid-October. Bury General Hospital is an acute hospital of 172 beds, with modern casualty and out-patient departments. Married accommodation may be available. Apply, giving full details and names of two referees, to Group Secretary, Bury General Hospital, Bury, Lancs. (5983)

MANCHESTER REGIONAL HOSPITAL BOARD

Oldham and District Hospital Management Committee

Applications are invited for the whole-time resident post of
SURGICAL REGISTRAR

at the Oldham Royal Infirmary (204 beds), becoming vacant on October 20, 1961. This post is recognized for the F.R.C.S. Applications, giving the names and addresses of two referees, to be forwarded to the Group Secretary, Oldham and District Hospital Management Committee, Central Offices, Rochdale Road, Oldham, quoting Ref. J/17. (5964)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

Surgery—contd.

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

North Middlesex Hospital, London N.18

SURGICAL REGISTRAR
required for General Surgical Unit. Post vacant December 1, 1961. Duties may include teaching. Non-resident, but required to sleep in hospital on duty nights. Experience in emergency general surgery and higher qualification essential. Appointment renewable at end of first year. Applications, with names of two referees, should be sent to the Secretary of hospital by October 13, 1961. (5969)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

West Ham Group Hospital Management Committee
Queen Mary's Hospital for the East End, Stratford, E.15

SURGICAL REGISTRAR
required. One-year appointment. Resident. Preference will be given to candidates holding F.R.C.S. The post, however, is recognized for F.R.C.S. Application forms available from Group Secretary, West Ham Group Hospital Management Committee, Stratford, E.15, which must be returned, duly completed, not later than October 13, 1961. (5988)

OXFORD REGIONAL HOSPITAL BOARD

REGISTRAR IN GENERAL SURGERY
at the Northampton General Hospital, available early December. The appointment will be for one year and eligible for extension to a second year. Recognized for the F.R.C.S. Duties include some work in the Casualty Department. Accommodation for a single person is available. Applications, on forms obtainable from the Secretary, Registrar Committee, 43 Banbury Road, Oxford, should reach him by October 16, 1961. (5817)

ST. ALBANS CITY HOSPITAL (394 beds)
St. Albans, Herts

LOCUM TENENS SURGICAL REGISTRAR
required from October 16 to 31, 1961. Post recognized for F.R.C.S. Applications to Secretary, Mid-Herts Group Hospital Management Committee, Bleak House, Catherine Street, St. Albans. (5109)

ST. THOMAS' HOSPITAL, London S.E.1

LOCUM SURGICAL REGISTRAR
for nine months from January 1, 1962. Applicants may be required to be resident. Applications, naming two referees, to Clerk of the Governors by October 7, 1961. (5955)

SHEFFIELD REGIONAL HOSPITAL BOARD

LOCUM RESIDENT SURGICAL REGISTRAR
required October 9 to November 2 inclusive at the Rotherham Hospital, Doncaster Gate, Rotherham. Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, naming two referees. (5818)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Croydon Group Hospital Management Committee
General Hospital (200 beds)

SURGICAL REGISTRAR
required December 22. Post resident or non-resident. Recognized for F.R.C.S. examination. Application forms, obtainable from Group Secretary, General Hospital, Croydon, to be returned by October 14. (5748)

UNITED BRISTOL HOSPITALS

REGISTRAR IN GENERAL SURGERY
Applications are invited for the post of Registrar in General Surgery at the Royal Infirmary. The appointment will be for one year in the first instance, subject to renewal. Applications, together with the names of two referees, should be sent, not later than October 14, 1961, to the Secretary, Royal Infirmary, Bristol 2. (6006)

WEST NORWICH HOSPITAL, Norwich

LOCUM SURGICAL REGISTRAR
required for six weeks from October 1, 1961. Resident or non-resident. Salary £25 per week in accordance with Terms and Conditions of Service for Hospital Medical Staff. Membership of a Medical Defence Society is a condition of appointment. Applications, stating age, qualifications and experience, with names of two referees, to Group Secretary, H.M.C., St. Stephen's Road, Norwich, Norfolk, NOR 53A. (5819)

REDHILL COUNTY HOSPITAL
Earlswood Common, Redhill

LOCUM HOUSE SURGEON
required for period October 7 to 20, 1961. Apply Group Medical Records Officer. (5778)

BANBURY, OXON, HORTON GENERAL HOSPITAL (355 beds)

LOCUM SURGEON
required October 15 to November 10. Senior H.O. or H.O. grade. Applications, with names of two referees, to the Secretary. (5820)

BOARD OF MANAGEMENT FOR GLASGOW ROYAL INFIRMARY AND ASSOCIATED HOSPITALS

SENIOR HOUSE OFFICER IN SURGERY
Duties at Glasgow Royal Infirmary. Apply in writing, giving three names for reference, to the Secretary, Glasgow Royal Infirmary, 84 Castle Street, Glasgow C.4, not later than October 6, 1961. (5910)

BRIGHTON GENERAL HOSPITAL

LOCUM SENIOR HOUSE OFFICER
for General Surgical Unit required from October 15 to 28, 1961, inclusive. Applications to Physician Superintendent, Brighton General Hospital, Brighton. (5950)

DONCASTER HOSPITAL MANAGEMENT COMMITTEE

Doncaster Royal Infirmary (328 beds)

Applications are invited for the post of
HOUSE SURGEON
(Intern or Senior House Officer). Post recognized for F.R.C.S. Post vacant mid-October. Applications to the Group Secretary, at Doncaster Royal Infirmary. (5779)

GENERAL HOSPITAL, Chester Road, Sunderland (443 beds)

LOCUM SENIOR HOUSE OFFICER IN SURGERY
required from October 13 for three weeks. Apply to Hospital Secretary. (5838)

MERTHYR AND ABERDARE HOSPITAL MANAGEMENT COMMITTEE

Aberdare General Hospital, Aberdare (102 beds)

SENIOR HOUSE OFFICER
Duties mainly general surgery, orthopaedic and traumatic. Also responsible for four medical beds. Married accommodation available. Apply, with full particulars, and copies of two recent testimonials, to Group Secretary, St. Tydfil's Hospital, Methyr Tydfil. (5148)

NEWTON ABBOT HOSPITAL
(General Section, 65 beds)

RESIDENT SENIOR HOUSE SURGEON
male or female, required October 19. Married quarters available. Applications (quoting Ref. F.364/40), stating qualifications, nationality, age, with copy testimonials, to Group Secretary, Torbay Hospital, Torquay, S. Devon. (9696)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS

Chelsea Hospital for Women

HOUSE SURGEON
(Senior House Officer). Resident post tenable for one year from December 1, 1961. Applications to the House Governor by October 14, 1961, on forms obtainable from 339 Goldhawk Road, London W.6. (5900)

THE LEICESTER ROYAL INFIRMARY

Applications are invited for the resident post of
SENIOR HOUSE OFFICER, SURGICAL
vacant December 1, 1961. The post is tenable for one year, with rotating duties in the surgical, orthopaedic and casualty departments, and is recognized for the F.R.C.S. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to Group Secretary, Leicester No. 1 Hospital Management Committee, The Leicester Royal Infirmary, by October 4, 1961. (5417)

PINDERFIELDS GENERAL HOSPITAL
Wakefield
Neurosurgical Unit

RESIDENT SENIOR HOUSE OFFICER and HOUSE SURGEON
required for the above unit as from November 1, 1961. Facilities will be offered for the S.H.O. to work in the Department of Medical Neurology and the Spinal Injuries Unit. Applications, stating date of birth, qualifications, experience, etc., and the names and addresses of three referees, to W. Bowring, Group Secretary, Pinderfields General Hospital, Aberford Road, Wakefield. (5893)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11

HOUSE SURGEON
(resident). Two posts available November 5 and 16. Open to pre- and post-registered candidates. Apply to Hospital Secretary with copies of three recent testimonials. (5418)

BRADFORD ROYAL INFIRMARY (507 beds)

JUNIOR HOUSE SURGEON (General Surgery)
Post vacant November 1, 1961. Recognized for F.R.C.S. and pre-registration purposes. Applications, stating qualifications, experience, etc., together with copy testimonials, to the Secretary, Royal Infirmary, Bradford 9. (5931)

BURTON-ON-TRENT HOSPITAL MANAGEMENT COMMITTEE

General Hospital, Burton-on-Trent

HOUSE OFFICER (Surgery)
required for mid-October. Married accommodation may be available. Applications, stating age, qualifications, and names of two referees, to S. D. Evans, Group Secretary. (5886)

EPSOM GROUP HOSPITAL MANAGEMENT COMMITTEE

Epsom District Hospital, Dorking Road, Epsom, Surrey

RESIDENT HOUSE SURGEON
required early November for General Surgery. Pre-registration post, recognized for F.R.C.S. Applications, stating age, qualifications and experience, with copies of two recent testimonials, should be sent, as soon as possible, to Group Secretary at above address. (5743)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London)

Applications invited for appointment of resident
HOUSE SURGEON
General (1st or 2nd post). Pre-registration post: recognized under F.R.C.S. regulations. Applications will also be considered from fully registered practitioners. Duties to commence November 2, 1961. Applications to Group Secretary, Hertford H.M.C., County Hospital, Hertford, Herts, by October 3, 1961. (5540)

IPSWICH AND EAST SUFFOLK HOSPITAL

Anglesea Road Wing (351 beds)

Applications are invited for two posts of
HOUSE SURGEON
one to the Senior Consultant Surgeon, another to Consultant General Surgeon. Posts recognized for pre-registration and F.R.C.S. examinations. Excellent library facilities available. Applications, with copies of recent testimonials, to Hospital Secretary. (5780)

KENT AND SUSSEX HOSPITAL
Tunbridge Wells

PRE-REGISTRATION HOUSE SURGEON
required. Locums from October 16, and six months' post from October 28, 1961. Apply, giving age, qualifications, experience, and copies of two recent testimonials, to Hospital Secretary. (5319)

LEEDS REGIONAL HOSPITAL BOARD

HOUSE SURGEONS
Recognized pre-registration posts will be available for the six months commencing November 1, 1961, in the following hospitals, approved under the Medical Act, 1950:

Victoria Hospital for Sick Children, Hull (143 beds)—1 vacancy.
*Westwood Hospital, Beverley (229 beds)—1 vacancy.
*Huddersfield Royal Infirmary (285 beds—2 vacancies.
*Bradford Royal Infirmary (507 beds)—1 vacancy.
*St. Luke's Hospital, Bradford (724 beds)—1 vacancy.
General Hospital, Otley (170 beds)—1 vacancy.
* Recognized for F.R.C.S.

Application forms can be obtained from the Secretary to the Board, Park Parade, Harrogate, or from the Dean, School of Medicine, Thoresby Place, Leeds 2, and should be returned to either of the above-named as soon as possible. Applications may be made in advance of results of final examination. Candidates wishing to apply for posts at more than one hospital should complete a separate form in respect of each hospital. (5821)

MANOR HOSPITAL
Nuneaton, Warwickshire (126 beds)

Required resident
HOUSE SURGEON
(pre-registration). General duties. Post vacant end October, 1961. Apply Hospital Secretary. (5460)

ROYAL EAST SUSSEX HOSPITAL
Hastings (146 beds)

Applications are invited for the pre-registration post of
HOUSE SURGEON
for General and E.N.T. Surgery. The hospital is the main surgical unit in the Group, with a resident staff of four. The post is recognized for the F.R.C.S., for which it offers excellent experience. The appointment is for six months and falls vacant on November 18, 1961. Applications, stating age, nationality, qualifications and experience, with copies of three recent testimonials or the names of two referees, should be submitted to the Administrator, quoting this journal. (5781)

Surgery—contd.

ST. LUKE'S HOSPITAL, Bradford (724 beds)

JUNIOR HOUSE SURGEON (General Surgery)
Post vacant November 1, 1961. Recognized for F.R.C.S. and pre-registration purposes. Applications, stating qualifications, experience, etc., together with copy testimonials, to the Secretary, Royal Infirmary, Bradford 9. (5932)

WEYMOUTH AND DISTRICT HOSPITAL (123 beds)

HOUSE SURGEON (Male or female)
required for resident pre-registration post, vacant mid-October, and tenable for six months. Recognized for F.R.C.S. examination. Applications, stating age, qualifications, and enclosing copy testimonials, to Group Secretary, West Dorset H.M.C., Damers Road, Dorchester, Dorset, immediately. (5521)

UROLOGY

MANCHESTER REGIONAL HOSPITAL BOARD

Preston and Chorley Hospital Management Committee
Preston Royal Infirmary (413 beds)

REGISTRAR IN UROLOGY
required. Post vacant mid-October. Recognized for F.R.C.S. One of two Registrar posts in 36-bedded unit. Application forms obtainable from Group Secretary, Royal Infirmary, Preston, Lancs. (5822)

BRISTOL SOUTHMEAD GENERAL HOSPITAL GROUP MANAGEMENT COMMITTEE

Required at Southmead Hospital (570 beds, including 138 maternity):
RESIDENT SENIOR HOUSE OFFICER (Urology)
for six or 12 months, commencing December 8, 1961. Post recognized for F.R.C.S. examination. Applications, on forms to be obtained from the undersigned, to be returned not later than October 16, 1961.—C. C. Hancock, Group Secretary, Southmead Hospital, Bristol. (5894)

VENEREOLOGY

BIRMINGHAM REGIONAL HOSPITAL BOARD

WHOLE-TIME SENIOR REGISTRAR IN VENEREOLOGY
Duties at V.D. Department, General Hospital, Birmingham. Excellent opportunity for extensive experience in specialty with opportunity to join in research projects and to study modern bacteriological and serological methods of diagnosis. Must reside within easy reach of hospital. Application forms, from Secretary, 10 Augustus Road, Birmingham 15, to be returned by October 16, 1961. Candidates may visit hospital. (5823)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 32

PUBLIC HEALTH

BIRMINGHAM SCHOOL HEALTH SERVICE
Principal School Medical Officer, Dr. Matthew Burn

SCHOOL MEDICAL OFFICER
Applications are invited from registered medical practitioners (men or women) for appointment as School Medical Officer in the School Health Service. The possession of a D.P.H. or D.C.H. will be an advantage. Salary in accordance with Whitley Council scale £1,295 by £65 to £1,620 by £75 to £1,845, commencing point according to experience. Appointment is subject to the appropriate Superannuation Act and to the passing of a medical examination. Forms of application and further particulars are obtainable from E. L. Russell, Chief Education Officer, School Health Service, 154-5 Great Charles Street, Birmingham 3, to be returned within two weeks of appearance of advertisement. (5626)

CITY OF MANCHESTER
Health Department

Applications are invited from registered medical practitioners for the undermentioned posts:
(a) MEDICAL OFFICER
(Administrative and Clinical)
(b) MEDICAL OFFICER
(Immunization and Vaccination)
Salary scale £1,295 to £1,845. Medical Council "C" conditions of service. Application forms, returnable not later than October 9, 1961, from the Town Clerk, Town Hall, Manchester 2. (5461)

COUNTY BOROUGH OF BLACKBURN

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER
Combined with a Bursary Scheme for taking the Diploma in Public Health
Applications are invited from registered medical practitioners, men and women, for this appointment. Conditions of service and salary in accordance with the Whitley Council scale, £1,295 to £1,845, Bursary candidates commencing at a minimum of £1,360 and having certain deductions. The Bursary Scheme is available for either full- or part-time courses at the university of choice. Full details with application form from the Medical Officer of Health, Public Health Department, Victoria Street, Blackburn. Closing date for application is October 14, 1961.—Frank Squires, Town Clerk. (5756)

COUNTY BOROUGH OF DUDLEY

ASSISTANT MEDICAL OFFICER OF HEALTH
Applications are invited from registered medical practitioners for the appointment of Assistant Medical Officer of Health and School Medical Officer. Duties mainly in connection with the School Health and Child Welfare Services. Opportunity for experience in all public health fields. Salary within scale £1,295-£1,845 per annum, according to experience and qualifications. Car allowance. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be sent to Medical Officer of Health, Council House, Dudley, Worcs, within one week of the appearance of this advertisement. (5782)

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER AND SCHOOL MEDICAL OFFICER in the Castleford (No. 11) Division, with facilities for D.P.H. study.
Applications invited from registered medical practitioners with at least three years' experience since qualification. Duties mainly in School Health and Infant Welfare Services. Salary £1,295 to £1,845 per annum. Facilities available for taking part-time D.P.H. course. County Council scale of travelling and subsistence allowances. Post superannuable and subject to medical examination. Forms of application, from the undersigned, to be returned not later than October 13, 1961.—Ronald W. Elliott, County Medical Officer, County Hall, Wakefield. (6005)

LANCASHIRE COUNTY COUNCIL

APPOINTMENT OF ASSISTANT DIVISIONAL MEDICAL OFFICER
Applications are invited from registered medical practitioners for appointment to vacancies which exist in:

1. Leigh
2. Heywood
3. Swinton
4. Droylsden

Possession of Diploma in Public Health desirable, but not essential. Salary scale £1,295 to £1,845. Commencing point will be according to experience. Assisted car purchase scheme and car allowance in accordance with County Council's scale.

Application forms and further particulars, from County Medical Officer of Health, Serial 3303, East Cliff County Offices, Preston, to be returned not later than October 17, 1961. (5915)

COUNCIL OF THE COUNTY OF ABERDEEN

APPOINTMENT OF DEPUTE MEDICAL OFFICER OF HEALTH
Applications are invited for the post of Depute Medical Officer of Health from duly registered medical practitioners holding the Diploma of Public Health or equivalent qualification. Post superannuable. Salary £1,750, rising to £2,003 6s. 8d. Conditions of appointment and forms of application from undersigned, with whom completed forms should be lodged by October 30, 1961.—James L. Craig, County Clerk, County Buildings, 22 Union Terrace, Aberdeen. (6009)

STEPNEY M.B.C.

MEDICAL OFFICER OF HEALTH
required. The person appointed must, in addition to being a duly qualified medical practitioner, be registered in the *Medical Register* as the holder of a Diploma in Public Health or State Medicine. The salary payable will be within the population range 75,001 to 100,000, as laid down by the Whitley Councils for the Health Services (Great Britain) Medical Council, "Committee C," the present commencing salary being fixed, having regard to age, qualifications and experience, between £2,390 and £2,775, proceeding by four annual increments of £75 and one of £80. Full-time appointment. Form of application and other particulars from Town Clerk, 227 Commercial Road, E.1. Closing date October 18, 1961. (6008)

WILTSHIRE COUNTY COUNCIL CRICKLADE AND WOOTTON BASSETT RURAL DISTRICT COUNCIL

Applications invited from registered medical practitioners holding the Diploma in Public Health for the whole-time "mixed" appointment of
ASSISTANT COUNTY MEDICAL OFFICER and MEDICAL OFFICER OF HEALTH to the Rural District of Cricklade and Wootton Bassett
The officer appointed must not engage in private practice as a medical practitioner and must reside in the district. As an Assistant County Medical Officer he will be on the staff of the County Medical Officer for 8/11ths of his time and required to perform such duties as may be prescribed. As Medical Officer of Health for the remaining 3/11ths he will be subject to the Public Health Officers Regulations, 1959, and to the control and direction of the District Council. Superannuable appointment, terminable by three months' notice on either side. Salary £1,653 6s. by £73 10s. 5d. (3) by £69 8s. 8d. (1) by £51 14s. 1d. (1) by £59 13s. 2d. (3) to £2,173 19s. 6d. Travelling and subsistence allowance payable. Forms of application, together with full particulars, from the Clerk of the County Council, County Hall, Trowbridge, to whom completed applications must be sent within 14 days of the appearance of this advertisement. Canvassing disqualifies. (6004)

ADMINISTRATIVE

SOUTH-EASTERN REGIONAL HOSPITAL BOARD, SCOTLAND

Applications are invited for the post of
DEPUTY MEDICAL SUPERINTENDENT
to the East and West Fife Boards of Management. The person appointed will work under the supervision of the Administrative Medical Superintendent and assist him in the general supervision of the Hospital and Specialist Services in Fife. The salary scale is £1,830 (at age 33), rising by annual increments to £2,170. Applications, giving particulars of age, qualifications, previous experience, and the names of three referees, to the Secretary, 11 Drumsheugh Gardens, Edinburgh 3, by October 14, 1961. (5635)

REPUBLIC OF IRELAND

INTERNATIONAL MISSIONARY TRAINING HOSPITAL, Drogheda, Eire

LOCUM PAEDIATRICIAN
required for a period of not less than six months. For details apply the Registrar. (5951)

LIFE ASSURANCE
WHOLE LIFE • ENDOWMENT • CHILDREN'S • PERSONAL • ANNUITIES
Expert, independent advice - Substantial rebates
All surplus to Medical and Dental charities.

MIA MEDICAL INSURANCE AGENCY LTD.
B.M.A. HOUSE, TAVISTOCK SQUARE W.C.1
Telephone: EUSton 6031/9
Branches in
BELFAST, BIRMINGHAM, BRISTOL, CARDIFF, DUBLIN, EDINBURGH, GLASGOW, LEEDS, LEICESTER, LIVERPOOL, MANCHESTER, NEWCASTLE, OXFORD, AND SOUTHAMPTON.

Republic of Ireland—contd.

TIPPERARY (North Riding) COUNTY COUNCIL

SURGICAL REGISTRAR
County Hospital, Nenagh

Applications are invited for the above post. Salary scale: First year £1,030 per annum, second year £1,135 per annum, third year £1,240 per annum. An additional £105 per annum will be paid to a Registrar who possesses a higher degree (M.Ch., F.R.C.S.I.). Emoluments at the rate of £178 per annum will be deducted where apartments and rations are availed of. Further particulars and application forms are obtainable from the Secretary, County Council Offices, Thurles, to whom completed applications should be sent not later than 5 p.m. on Friday, October 20, 1961. (5911)

OVERSEA (Vacant)

GENERAL PRACTITIONER WANTED FOR small active group in Western Canada. Younger man preferred, but experience an asset. Modern well-equipped hospital. Well-organized congenial clinic. Pleasant progressive town with excellent facilities for comfortable living and for all forms of recreation. Partnership programme. Excellent opportunity for the right person. Reply giving full particulars of experience, private and professional interests, and names of references. Advance toward cost of transportation available if necessary.—Box 1050, Wainwright, Alberta, Canada.

OPHTHALMOLOGIST. APPLICATIONS ARE invited from suitably qualified oculists to join a busy eye practice in Central Canada. For information write to Dr. E. A. Donegan, 159 1st Avenue N.E., Swift Current, Saskatchewan.

OPHTHALMOLOGIST. ASSISTANT, WITH OR without view, required January or sooner. Mid-Canada.—Box 719, B.M.J.

OTOLARYNGOLOGIST REQUIRED FOR well-established practice in large city close to Toronto. Well-equipped office and excellent hospital facilities immediately available. Guaranteed $12,000 per annum minimum. Send full personal particulars with first inquiry.—Box 2861, B.M.J.

WANTED, ASSISTANT IN G.P. IN CANADIAN lumber town. Should have obstetrical experience. Early view to partnership. $600 monthly. Could interview in London, Dublin or Cork in late October.—Reply airmail, Dr. A. M. E. Kennedy, Deer Lake, Newfoundland, Canada.

WANTED, GROUP IN WESTERN CANADA requires Specialist in Obstetrics and Gynaecology, M.R.C.O.G. or equivalent. Guaranteed salary based on qualifications, with year-end bonus. Applicants are reminded that a lively, friendly personality are essential to success in this area. Reply, stating age, qualifications and other particulars, to Box 726, B.M.J.

WANTED, PSYCHIATRIST TO HEAD A community mental health centre in Sydney, Nova Scotia, Canada. Salary $11,000, with four annual increments of $500 each. Opportunity for private practice. Other information promptly supplied upon request.—Lewis MacMillan, Chairman, Mental Health Board, Provincial Building, Sydney, Nova Scotia, Canada. (6392)

CAMEROONS DEVELOPMENT CORPORATION
requires
MEDICAL OFFICERS (Locum)

for periods of six months or longer. Salary about £220 per month, and gratuity on completion. Free furnished quarters and passages.

Enquiries to Personnel Officer, Colonial Development Corporation, 33 Hill Street, London W.1, or telephone MAYfair 8484, quoting Serial 624. (5998)

AUCKLAND HOSPITAL BOARD, New Zealand

JUNIOR OR SENIOR REGISTRAR
Cardio-Surgical and Thoracic Surgical Unit, Green Lane Hospital

Applications are invited from suitably qualified medical practitioners for the position of Junior or Senior Registrar, Cardio-Surgical and Thoracic Surgical Unit, Green Lane Hospital. This is a full-time position for a period of 12 months, with the opportunity for an extension of the term for a further limited period. Salary will be within the scale £(N.Z.)1,220 to £(N.Z.)1,600 per annum, depending on the qualifications and experience of the appointee. In addition a living-out allowance of £(N.Z.)200 per annum will be payable. Form of application and conditions of appointment, which sets out the duties attached to this position as well as details of travelling expenses, which will be refunded to appointees from overseas, are obtainable on application from the High Commissioner for New Zealand, 415 The Strand, London W.C.2. Applications, addressed to the Secretary, Auckland Hospital Board, P.O. Box 5546, Auckland, New Zealand, close at noon on Wednesday, October 25, 1961.—R. F. Galbraith, Secretary. (6002)

U.S.A. MUHLENBERG HOSPITAL, PLAINFIELD, N.J. Fully accredited internship, 440-bed hospital, 25 miles from New York City. Teaching programme directed by Johns Hopkins faculty member. $250 monthly stipend, plus full maintenance. Transportation advanced. E.C.F.M.G. required. Inquiries to Director. (8295)

AUSTRALIA
THE UNIVERSITY OF NEW SOUTH WALES FACULTY OF MEDICINE

SENIOR LECTURERS (Anatomy and Histology)

The University of New South Wales wishes to appoint Senior Lecturers in Anatomy and Histology to the staff of the Faculty of Medicine. The successful candidates will be expected to take up their duties in Sydney early in 1962. Salary: Senior Lecturer £A.2,599 range £A.3,049 per annum. Commencing salary will be determined by qualifications and experience. Successful applicants will be eligible, subject to passing a medical examination, to contribute to the State Superannuation Fund. First-class ship fares to Sydney of appointees and their families will be paid. Four copies of applications, with the names of three referees, should be lodged with the Agent-General for New South Wales, 56-57 Strand, London W.C.2, and a copy forwarded by airmail, in an envelope marked "University Appointment," to the Bursar, the University of New South Wales, Box 1, Post Office, Kensington, N.S.W., Australia, before November 17, 1961. (5867)

BESS KAISER HOSPITAL, Portland 17, Oregon

Wanted:

GENERAL PRACTICE RESIDENTS

for one or two years. New 130-bed hospital in the Pacific North-west. At present only physicians with an immigration visa are eligible. Stipend $400 per month, full room and board. Living out allowance for married residents. For more information please write to Administrator. (8623)

CANADA

A QUALIFIED SPECIALIST IN PHYSICAL MEDICINE AND REHABILITATION

required for a comprehensive in-patient and out-patient rehabilitation centre (53 beds). The case load includes children and adults, and the Physician appointed will have full clinical responsiblity for those patients under his care. Duties include consultations in local hospitals. Salary depends on qualifications and experience, minimum starting salary $10,500 per year.

Apply to Medical Director, G. F. Strong, Rehabilitation Centre, 900 West 27th Avenue, Vancouver 9, B.C., Canada. (5651)

CANADA

Resident Junior Rotating Interns. Salary $250 per month, less $75 per month for full maintenance. Passage money can be advanced as loan if required, to be deducted from salary over 12-month period. Half of passage money will be refunded at end of one year's employment. Foreign applicants must possess the Permanent Educational Council for Foreign Medical School. Hospital opened 1954, is a fully accredited, 382-bedded general hospital, and is approved by the Canadian Medical Association for intern training. Apply Superintendent, St. Thomas-Elgin General Hospital, St. Thomas, Ontario, Canada. (5276)

CATHOLIC MISSION HOSPITALS. DOCTOR urgently needed for hospital in Nigeria which is without any medical officer. Apply the Secretary, Damien Medico-Missionary Society, 47 Fitzwilliam Square, Dublin.

EAST AFRICA HIGH COMMISSION

SCIENTIFIC OFFICER

required at the laboratories of the East African Trypanosomiasis Research Organization, Tororo, Uganda, to conduct research on the ecology of *Glossina* populations, with special reference to sampling methods and to the factors determining population density and their relations to modern methods.

Candidates must have a first- or second-class honours degree in zoology and aptitude for original research; experience of field and laboratory entomological research techniques is desirable.

Appointment on contract for one tour of two years. Salary in the scale £1,221 to £2,097 a year, depending on qualifications and approved experience. Gratuity (taxable) of 25% of salary on satisfactory completion of contract. Free return passages for officer, wife and dependent children. Government quarters, with heavy furniture, available at a rental not exceeding £78 a year. Approximately four months' home leave on full pay on satisfactory completion of contract; 16 days' local leave also granted during tour.

Application forms from Director of Recruitment, Department of Technical Co-operation, 3 Sanctuary Buildings, Great Smith Street, London S.W.1, quoting BCD 195/198/014. (5868)

LEWISHAM HOSPITAL
(adjusted daily average 179.1)
West Street, Petersham (Sydney), Australia

PATHOLOGIST (Full-time)

Applications, closing October 31, 1961, are invited from legally qualified medical practitioners for the above post in the Pathology Department. Applicants must be specialists in pathology. Conditions in accordance with the Hospitals Commission's determination. Salary ranges from £A.2,964 to £A.3,564, with the possibility of private practice at the hospital by arrangement. Formal letters applying are to be forwarded to Reverend Mother Superior. (5999)

GENERAL HOSPITAL
St. John's, Newfoundland, Canada

INTERNS

Applications are invited to fill vacancies on the Intern staff of the General Hospital, St. John's, Newfoundland. This 456-bed general hospital is approved for the pre-registration year under the General Medical Council. Salary is at the rate of $300 per month (£104), less a deduction of $47 (£16) per month for room and board. An additional allowance of $50 (£17) per month is payable to married applicants with one or more dependants who reside in St. John's. Transportation is provided to accepted applicants on the basis of one year's service. Return fare is provided for the applicant for repatriation purposes at the satisfactory completion of one year's service. Three weeks' vacation is provided, and interns have every second night off duty. Assistance will be provided in finding employment for wives of married interns if requested. Further information can be obtained from the Superintendent, the General Hospital, St. John's, Newfoundland, Canada. (9676)

GENERAL HOSPITAL
St. John's, Newfoundland, Canada

RESIDENT PHYSICIANS

Applications are invited from interested physicians to fill residence posts for postgraduate training, commencing January 1, 1962. These are approved by the Royal College of Physicians and Surgeons of Canada. This is a 456-bed acute general hospital, with positions available in medicine, surgery, paediatrics, radiology, pathology, and anaesthesia. Salary is $4,000 per year. An allowance of $50 per month is payable to residents with dependants residing in St. John's. Transportation is provided from Canadian and U.K. centres. For further information please contact the Superintendent, the General Hospital, St. John's, Newfoundland, Canada. (9677)

GOVERNMENT OF HONG KONG

MEDICAL OFFICERS

(men or unmarried women) required for public health, hospital administration, tuberculosis, anaesthetic, psychiatric, and general duties. Candidates must possess medical qualifications registrable in the United Kingdom and should have at least three years' experience. Appointments on contract for one tour of three years at a salary of £2,055 to £2,865 a year, according to experience. Gratuity (taxable) of approximately £675 to £800, according to salary, on satisfactory completion of contract. Government quarters when available at a low rental, but officers may have to reside initially in a hotel, when rental will be the same as for government quarters. Free return passages for the officer, his wife and up to three dependent children. Approximately six months' home leave on full pay on satisfactory completion of contract. Application forms from Director of Recruitment, Department of Technical Co-operation, 3 Sanctuary Buildings, Great Smith Street, London S.W.1, quoting RC 205/68/03. (6010)

GOVERNMENT OF TANGANYIKA

MALE MEDICAL OFFICERS

possessing medical qualifications registrable in United Kingdom required for general duties normally based on hospital, but must be prepared to tour and train junior African staff. Professional duties cover wide field in medicine, surgery, and obstetrics. Appointments carrying salary in the scale £1,617 to £2,664 on contract for one tour of 21-27 months with gratuity (taxable) of 25% of emoluments. Candidates in N.H.S. superannuation would have existing rights frozen. Candidates may remain in continuous N.H.S. superannuation by payment of contribution during service overseas, but rate of gratuity would be 20% of total emoluments. Starting point in salary scale determined by experience. A candidate with five years' approved experience after age 25 would enter the scale at £1,953 a year; with ten years' £2,328 a year. Four extra increments (approximately £250) given for approved higher qualifications. Taxation at local rates. Quarters usually available at low rental. Return passages for officer and wife, and up to one adult fare for dependent children. Education allowances are payable for children between eighth and nineteenth birthdays being educated at approved schools outside East Africa and at boarding schools in East Africa. Approximately four months' home leave on full salary is granted on satisfactory completion of contract. Local leave of 16 days a tour is also granted subject to the exigencies of the service. Application forms from Director of Recruitment, Department of Technical Co-operation, 3 Sanctuary Buildings, London, S.W.1 (quoting RC 205/145/01LI). (5916)

PRETORIA, SOUTH AFRICA

Two Catholic doctors with English or Irish qualifications required. (1) Physician/Surgeon for missionary hospital. Salary £1,800 per annum. Rent-free dwelling, free water and light. (2) Part-time appointment in hospital with 60 to 70 T.B. patients. Salary for doctor with two years' experience: £1,380 per annum. Private practice in addition. House provided. These vacancies occur near Rustenburg, Pretoria, where the climate is delightful and the country is peaceful. Apply to Hon. Secretary, Medical Missionary Society, University College, Cork, Ireland. (5917)

Oversea (Vacant)—contd.

HONG KONG. ANAESTHETIST REQUIRED for busy Protestant Mission Hospital, 280 beds, 3,000 to 3,500 operations a year, including general surgery, thoracic, paediatric, and gynaecological cases. To commence January 1, 1962, for two years or longer if desired. Salary £2,000 per annum, passage paid. Further information from Clinical Director, Nethersole Hospital, Bonham Road, Hong Kong. (5575)

HOUSE STAFF MEMBER (1), FULL-TIME. Accredited 60-bed General Hospital located in University City, near Medical Centre. Adult medical and surgical patients only. Requirements: Must be certified by Educational Council for Foreign Medical Graduates (E.C.F.M.G.). Beginning salary $8,500 year. Write Administrator, Midtown Hospital, Syracuse, New York, U.S.A., stating qualifications and training. (8974)

MENTAL HYGIENE AUTHORITY
Victoria, Australia

CONSULTANT PSYCHIATRIST

Applications are invited for whole-time posts as resident Consultant Psychiatrists at mental hospitals of the Victorian Mental Hygiene Authority at a gross salary of £3,698 per annum. Unfurnished seven-roomed residences are available with certain emoluments at a rental of approximately £283. Qualifications: At least six years' experience in full-time psychiatry, and to possess either D.P.M., M.D. or M.R.C.P. or its equivalent for not less than two years, and be registerable in the state of Victoria. Transport expenses to Australia: A refund of expenses to a maximum of £A.500 will be made if appointee contracts to remain in the service for at least three years. Applications to be addressed to the Secretary, Mental Hygiene Department, 300 Queen Street, Melbourne C.1, Australia. (5577)

MENTAL HYGIENE AUTHORITY
Victoria, Australia

PSYCHIATRIST

Applications are invited for whole-time posts as resident Psychiatrists at mental hospitals under the control of the Victorian Mental Hygiene Authority at a gross salary of £3,373 per annum. Unfurnished seven-roomed residences are available with certain emoluments at a rental of approximately £260 per annum. Qualifications: Applicants must have had at least two years' full-time experience in psychiatry and possess a D.P.M., M.D., M.R.C.P. or its equivalent, and be registerable in the state of Victoria. Transport expenses to Australia: A refund of expenses to a maximum of £A.500 will be made if appointee contracts to remain in the service for at least three years. Applications to be addressed to the Secretary, Mental Hygiene Department, 300 Queen Street, Melbourne C.1, Australia. (5576)

PLANNING ON COMING TO CANADA? This new general hospital in Burlington, Ontario, opened in January, 1961, has vacancies for Internes (House Officers). Salary $200 per month, plus board and room, or $85 per month living out allowance. These appointments offer good training and experience in Medicine, Surgery and Obstetrics, and will provide a fine opportunity for physicians hoping to establish a practice in an attractive and rapidly developing area. For details write to Mr. W. O'Neill, Administrator, Joseph Brant Memorial Hospital, Burlington, Ontario. (9634)

STATE OF CONNECTICUT
Fairfield State Hospital, Newtown, Conn., U.S.A.

RESIDENTS IN PSYCHIATRY

Applications are invited for residency training in psychiatry for men and women physicians, subject to successful completion of the American medical qualification examinations in September or April. Large modern hospital with active and varied teaching programme in affiliation with Yale University. Fully accredited for three years of training and approved for training leading to the D.P.M. Participant in Exchange-Visitor Programme. Close to metropolitan areas. Maintenance at nominal cost immediately available to single applicants, waiting list for family accommodations. Beginning stipend $455 per month. Write, giving particulars, to Jane E. Oldman, M.D., Director of Training.

TAUMARUNUI HOSPITAL BOARD
New Zealand

Applications are invited from medical practitioners with qualifications registerable in New Zealand for the position of

FULL-TIME SURGEON

to the Taumarunui Hospital. A higher surgical qualification is desired. Salary scale £1,900 to £2,300, the commencing salary in the scale to be determined by the Medical Officers' Salaries Grading Committee. Full particulars of the duties of the position and the conditions of appointment are available on request, or from the office of the High Commissioner for New Zealand, The Strand, London. Applications, showing full particulars of qualifications and experience, together with copies of three recent testimonials, should be forwarded to reach the undersigned not later than Tuesday, October 24, 1961. Envelopes should be marked "Surgeon, Taumarunui Hospital" in bottom left-hand corner.—S. A. Philip, Secretary, Private Bag, Taumarunui, New Zealand. (5525)

THE OTAGO HOSPITAL BOARD
Dunedin, New Zealand

DIRECTOR OF OUT-PATIENT AND REHABILITATION SERVICES

Applications are invited from medical practitioners for the position of Director of Out-patient and Rehabilitation Services. Applicants must be qualified for the status of Senior or Junior Specialist as defined in the Hospital Employment (Medical Officers) Regulations and set out in the Conditions of Appointment for the position. The salary will be determined within one of the following scales, in accordance with the qualifications and experience of the appointee: Senior Specialist, Scale (b) £2,800/£3,100, Scale (c) £2,450/£2,800; Junior Specialist, £1,900/£2,300. The appointee's main duty will be as Director of Out-patient Services, and he will be the leader of the team concerned with the rehabilitation of the sick and injured. Travelling expenses will be paid in accordance with the information contained in the Conditions of Appointment, which, together with the prescribed form of application, may be obtained from the Office of the High Commissioner for New Zealand, 415 The Strand, London, or the undersigned. Applications, together with testimonials and names of referees, health and chest certificates, should be in the hands of the undersigned not later than 10 o'clock a.m. on Monday, November 13, 1961.—W. A. Williamson, Secretary, Otago Hospital Board, P.O. Box 946, Dunedin, New Zealand. (5264)

UNIVERSITY COLLEGE, Ibadan, Nigeria

Applications are invited for

SENIOR LECTURESHIP IN THORACIC AND CARDIAC SURGERY

carrying honorary Consultantship to University College Hospital. A certain amount of general surgery required initially. Secondment favourably considered. Candidates must have had five years' experience in the specialty and preferably teaching experience. Salary scale £2,350 by £100 to £2,950 per annum. Passages paid for appointee, wife and up to five children under 11 years, on appointment, annual overseas leave and termination. Children's car and outfit allowances. F.S.S.U., or arrangement with N.H.S.S. Part-furnished accommodation at rent not exceeding 7.7% of salary. Detailed applications (10 copies), naming three referees, by October 30, 1961, to Secretary, Senate Committee on Colleges Overseas in Special Relation, University of London, London W.C.1, from whom further particulars may be obtained. (5870)

UNIVERSITY OF NEW ENGLAND
Armidale, New South Wales

LECTURER OR SENIOR LECTURER IN PHYSIOLOGY

Applications are invited for the above-mentioned position. The Department of Physiology, which is at present expanding, offers courses in two faculties and within the Faculty of Science teaches to honours and postgraduate level. An applicant with general or specific training in physiology and qualifications in either Science, Veterinary Science, Medicine or Agricultural Science will be considered for the position. The department is however particularly interested in developing its courses in general and comparative mammalian physiology and the biophysical aspects of physiology. The successful applicant will be expected to assist in the teaching of second- and third-year students in the Faculty of Science and to continue his own line of research or to join one of the research projects already in progress. Salary for a Lecturer is within the range £A.1,730 by £A.105 to £A.2,435, and for a Senior Lecturer £A.2,550 by £A.100 to £A.3,000 per annum. In addition cost of living adjustments at present amount to £A.49. The salary for overseas applicants commences from the date of embarkation, and fares of applicant and family are paid, together with a removal allowance of £A.300. The commencing salary will be fixed according to qualifications and experience. The position is superannuable, and up to 90% of the purchase price of a house may be advanced through the University housing scheme. Further information and the conditions of appointment may be obtained from the Secretary, Association of Universities of the British Commonwealth (Branch Office), Marlborough House, Pall Mall, London S.W.1. Applications close, in Australia and London, on November 30, 1961. (5976)

UNIVERSITY OF OTTAWA
Ottawa, Ontario, Canada

ASSISTANT PROFESSOR IN PHARMACOLOGY required, Ph.D. or M.B. Salary: $6,000 to $8,500, according to qualifications and experience. Applications to Professor M. F. Murnaghan at the above address. (5659)

VIRGINIA. PROGRESSIVE PSYCHIATRIC Hospital. Fully approved for two years' training programme, psychodynamically oriented, emphasizes individual supervision and provides broad experience in psychotherapy of in-patients and out-patients. Multidiscipline, active affiliation with Medical College of Virginia. Residents participate in teaching and research. Exchange programme. Salary $8,044. Send full résumé in first letter to Theodore G. Denton, M.D., Superintendent, Central State Hospital, Petersburg, Virginia.

UNIVERSITY OF QUEENSLAND

READER AND SENIOR LECTURER IN ANATOMY

The University invites applications for the above-mentioned positions. Applicants for the Readership should be well qualified in the subject, have had considerable experience of teaching at University level, hold a higher degree, preferably a doctorate, and have made significant original contributions to some branch or branches of anatomy, or to related subjects such as neurophysiology, histopathology, etc. It is preferable that the appointee be medically qualified. Applicants for the Senior Lectureship should have had a sound training in the subject, have had experience in teaching at University level, hold a higher degree and/or have made original contributions to some branch or branches of the subject, or to related subjects. It is preferable that the appointee be medically qualified. The Department of Anatomy will, from the beginning of 1962, occupy its new building at the main University site at St. Lucia, where there will be very good facilities for teaching and for investigation. The department has its own "Akashi" electron microscope in operation, and the University will shortly have a Siemens and Halske Elmiskop I installed in the general Electron Microscope Unit, to which staff of the Department of Anatomy will have access. There is full provision in the Department for modern cytological and histological investigation. It is expected that there will also be adequate provision of electronic equipment. The salary ranges are: Reader, £A.2,960 by £A.60 to £A.3,200; Senior Lecturer, £A.2,520 by £A.70 to £A.2,870. The successful applicants will be entitled to participate in the benefits available to the academic staff, which include F.S.S.U. type superannuation, housing assistance, study leave, and travel grants. Additional information on the conditions of appointment, staffing, and activities of the Department, together with application forms, will be supplied upon request to the Secretary, Association of Universities of the British Commonwealth (Branch Office), Marlborough House, Pall Mall, London S.W.1. Applications close, in Australia and London, on November 11, 1961. (5977)

UNIVERSITY OF QUEENSLAND

SENIOR LECTURER (CLINICAL) IN MEDICINE

The University invites applications for the above-mentioned position. Applicants should have a higher qualification in clinical medicine and some experience of medical research. The Department of Medicine, which is at present housed in Brisbane Hospital, has 66 beds within the hospital and manages its own Out-patients' Department services. Fields of research in which the department is at present engaged are endocrinological, metabolic and neurological (steroids, gonadotrophins, serum calcium, gout, and renal disease, histochemistry of nervous system). The salary range is £A.2,870 by £A.70 to £A.3,220. The successful applicant will be entitled to participate in the benefits available to the academic staff, which include F.S.S.U. type superannuation, housing assistance, study leave and travel grants. Additional information on the conditions of appointment, staffing, and activities of the department, together with application forms, will be supplied on request to the Secretary, Association of Universities of the British Commonwealth (Branch Office), Marlborough House, Pall Mall, London S.W.1. Applications close, in Australia and London, on November 11, 1961. (5978)

WANTED. DOCTOR URGENTLY REQUIRED, general practitioner preferred. Modern 23-bed hospital with running water and sewer. Good surgical suite, x-ray and laboratory equipment. Population of village 500, surrounding district has population of approximately 1,200. Nearest doctor 50 miles away. Residence and office, with water and sewer, available. Estimated income in the bracket of $10,000-$12,000 per annum. Good opportunity for advancement. Excellent hunting and fishing. Write or wire the Secretary, Box 159, Empress, Alberta, Canada. Assistance will be given with passage if required. (5991)

WANTED. FULL-TIME HOUSE PHYSICIANS. Acute care 345-bed general hospital. Start December, 1961. Graduate of approved English school, with at least one year's approved internship. Salary $8,000 to $10,000, depending on postgraduate training. E.C.F.M.G. and immigrant visa necessary. Further information from Director of House Staff, Kentucky Baptist Hospital, Louisville 4, Kentucky. (5579)

WEST VIRGINIA UNIVERSITY MEDICAL CENTER

Applications are invited for Residencies and Fellowships in Anaesthesiology at the West Virginia University Medical Center. Opportunity for research. E.C.F.M.G. essential. Starting salary for residents: $275 monthly, plus hospitalization. Travelling expenses up to $500 plus stipend commensurate with experience for Fellows. For information write R. E. Jones, M.D., Division of Anesthesiology, West Virginia University Medical Center, Morgantown, West Virginia. (5578)

UNIVERSITY AND RESEARCH

APPOINTMENTS, etc.

THE MEDICAL COLLEGE OF ST. BARTHOLOMEW'S HOSPITAL
West Smithfield, E.C.1

Applications are invited from those with medical qualifications for the post of

LECTURER IN ANATOMY

Duties to commence as soon as possible. The salary will be on the scale £1,250 by £100 to £1,850, plus £60 London Allowance, together with children's allowance and membership of the F.S.S.U. The starting point on the scale will be determined by experience in teaching and research. Forms of application, which should be returned not later than October 21, 1961, may be obtained from the Secretary of the Medical College. (5887)

THE UNIVERSITY OF LEEDS
Department of Medicine—Division of Dermatology

Applications are invited for appointment as
SENIOR REGISTRAR AND TUTOR IN DERMATOLOGY
at a salary on the scale £1,500 by £100 to £1,800 a year. Applicants who have held posts as Senior Registrar in General Medicine or who hold membership of the Royal College of Physicians will be considered; they need not have had specialized experience in dermatology. Applications (three copies), stating date of birth, qualifications, details of present and previous appointments (with dates), and experience of teaching, together with the names of three referees, should reach the Registrar, the University, Leeds 2 (from whom further particulars may be obtained), not later than October 23, 1961. (5971)

THE UNIVERSITY OF MANCHESTER

Applications are invited for the post of
DEMONSTRATOR IN ANATOMY
from candidates with medical qualifications registrable in this country. Salary scale: £950 by £50 to £1,100 per annum. Membership of Children's Allowance Scheme. Applications should be sent, not later than October 7, 1961, to the Registrar, The University, Manchester 13, from whom further particulars and forms of application may be obtained. (5606)

UNIVERSITY OF ABERDEEN

CHAIR OF CHEMICAL PATHOLOGY

The University has promoted an Ordinance for the institution of a Chair of Chemical Pathology and invites applications for the post. The Professor will have charge of a new department, replacing the existing Department of Clinical Chemistry, and will be responsible for a Chemical Pathological service for the North-Eastern Regional Hospital Board, and will be Adviser to the Board in Chemical Pathology. Further particulars should be obtained from the Secretary, the University, Aberdeen, with whom applications (16 copies) should be lodged not later than October 31, 1961. (9642)

UNIVERSITY OF ST. ANDREWS
EASTERN REGIONAL HOSPITAL BOARD

SENIOR LECTURESHIP IN MEDICINE

Applications are invited for the post of Senior Lecturer in the Department of Medicine, Queen's College, Dundee, in the University of St. Andrews, commencing on a date to be arranged. Candidates, who are required to hold the Membership of a Royal College of Physicians, should, in addition to a broad training in general medicine, have experience in metabolic, renal or endocrine disease. Attached to the post will be an honorary appointment of Consultant status from the Eastern Regional Hospital Board. Salary scale £2,350 by £100 to £3,150 by £50 to £3,200. F.S.S.U., family allowance, grant towards expenses of furniture removal. Further particulars from the Secretary of the University, c/o Queen's College, Dundee, with whom 14 copies of the application, containing the names of three referees, should be lodged not later than October 21, 1961. (5912)

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MEETINGS

AMENDED ADVERTISEMENT

N.W. REGIONAL BOARD S.H.M.O. GROUP. Saturday, October 7, 1961, 2.30 p.m., Room "C." Agenda: Election of representative to the Council for the year 1962/3; General discussion. (5522)

SYMPOSIUM ON BRONCHIAL ASTHMA, Thursday, October 5, 3.30 to 6.30 p.m., Lecture Theatre, Royal Victoria Infirmary, Newcastle upon Tyne. Tickets, including tea and sherry, twenty-five shillings each, from the Chest and Heart Association, Tavistock House North, London W.C.1. (5656)

THE ERADICATION OF TUBERCULOSIS. Symposium, October 18, 2 p.m., Royal College of Surgeons. Chairman, Professor F. R. G. Heaf. Tickets, one guinea, from the Chest and Heart Association, Tavistock House North, W.C.1. (5914)

EDUCATIONAL AND LECTURES

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UNIVERSITY OF GLASGOW

MACEWEN MEMORIAL LECTURE

The Macewen Memorial Lecture will be delivered by Sir Russell Brock in the Lecture Theatre, Physiology Department, on Friday, October 6, 1961, at 4 p.m. Subject: **"Basic Principles in the Surgery of Diseases of the Heart."** The lecture is free and open without ticket to members of the university and to the public.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1947-1960: M.R.C.P.Lond., 231; F.R.C.S.Eng., Final, 375; M. and D.Obst.R.C.O.G., 449; D.A., 325; D.C.H., 247; University or Conjoint Finals, 721. Up-to-date courses for the above and for the Primary F.R.C.S., M.R.C.P.Edin., F.R.C.S.Edin., D.P.H., F.F.A., D.P.M., D.O., D.L.O., D.I.H., D.T.M.&H., D.M.R.D., and D.M.R.T. (Part 2). Assistance with M.D. thesis. Prospectus, list of tutors, etc., on application to G. E. Oates, M.D., M.R.C.P.(Lond.), University Examination Postal Institution, 17 Red Lion Square, London W.C.1. 'Phone HOLborn 6313.

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THE SOCIETY FOR MEDICAL AND DENTAL HYPNOSIS
(formerly Dental and Medical Society for the Study of Hypnosis and Hypnotherapy Group)

will hold two Study Groups on the **"Theory and Practice of Hypnosis"** for medical and dental practitioners in October and December, 1961. On October 16, a series of eight consecutive twice-weekly evening lectures will begin at 8 p.m. This Full Course will cover the use of hypnosis in medical, dental, and psychological fields and will include individual tuition on the technique of hypnosis.

On December 2 and 3, an Intensive Week-end Study Group will be held in London for those members who live too far away to attend the evening lectures on the Full Course. Medical practitioners are invited to apply to the Secretary, Society for Medical and Dental Hypnosis, Manson House, 26 Portland Place, London W.1. (5627)

INSTITUTE OF ORTHOPAEDICS

COURSE ON ADVANCED CLINICAL ORTHOPAEDICS
OCTOBER 26–28, 1961

PROGRAMME

THURSDAY, OCTOBER 26, 1961—TOWN SECTION (234 Great Portland Street, London, W.1)			
9.30–10.45	Prosthetic Replacement of Long Bones	Lecture Room	MR. H. JACKSON BURROWS
11.00	Coffee		
11.15–12.30	Prosthetic Replacement of the Hip Joint	,, ,,	MR. J. CHARNLEY
12.45	Lunch (Refectory)		
2–3.15	Spondylolisthesis	,, ,,	MR. P. H. NEWMAN
3.30–4.30	Radiological Changes in the Reticuloses	,, ,,	DR. R. O. MURRAY
4.45	Tea		
FRIDAY, OCTOBER 27, 1961—COUNTRY SECTION (Brockley Hill, Stanmore, Middlesex)			
9.30–10.45	Power Driven Appliances for the Upper Limb	Research Block	DR. A. B. KINNIER WILSON
11.00	Coffee		
11.15–12.15	Blood Flow in Bone	,, ,,	DR. A. MCPHERSON
12.30	Lunch		
2–3.15	Clinical Problems	,, ,,	MR. J. N. WILSON
3.30–4.30	Biochemical Investigations in Orthopaedics	,, ,,	DR. P. G. WALKER
4.45	Tea		
SATURDAY, OCTOBER 28, 1961—TOWN SECTION			
10–11.15	Bone Changes in Kidney Disease ..	Lecture Room	DR. R. NASSIM
11.30	Coffee		
11.45–12.45	Peripheral Vascular Disease	,, ,,	MR. M. BIRNSTINGL

The fee for this course (including coffee, lunch and tea) is 3 gns. Early application should be made to the Dean, at 234 Great Portland Street, London W.1. Cheques should be made payable to the Institute of Orthopaedics. (5865)

INSTITUTE OF UROLOGY

IN ASSOCIATION WITH ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS

WEEK-END COURSE ON
"UROLOGY FOR HIGHER EXAMINATIONS" October 20 to 22, 1961

Date	*Time*	*Title*	*Lecturer*	*Place*
Fri., Oct. 20	2.0 p.m.	Operating Session ..	MR. H. G. HANLEY	St. Paul's Hospital
	8–9 p.m.	Lecture, Tumours of the Testis	DR. R. C. B. PUGH	Institute of Urology
Sat., Oct. 21	10 a.m. to 11 a.m.	Lecture, Tumours of the Bladder	MR. A. R. C. HIGHAM ..	Institute of Urology
	11.30 a.m. to 12.30 p.m.	Lecture, Surgical Treatment of Urethral Stricture	MR. R. T. TURNER-WARWICK	Institute of Urology
	2.30 p.m. to 4.30 p.m.	Teaching Session ..	MR. J. D. FERGUSSON ..	St. Paul's Hospital
Sun., Oct. 22	10 a.m. to 11 a.m.	Lecture, Hydronephrosis	MR. H. G. HANLEY	Institute of Urology
	11.30 a.m. to 12.30 p.m.	Lecture, Radiological Diagnosis	DR. J. J. STEVENSON	Institute of Urology
	2–3 p.m.	Lecture, Implantation of the Ureter	MR. H. K. VERNON	Institute of Urology
	3.30 p.m. to 4.30 p.m.	Lecture, Control of Infection	DR. A. E. FRANCIS	Institute of Urology

Fee for the course, 5 guineas. Applications to the Secretary, Institute of Urology, 10 Henrietta Street, Covent Garden, W.C.2.

Educational and Lectures—contd.

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London: October 16, November 13, 1961.
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UNIVERSITY OF LONDON

A lecture entitled "**Some Physiological and Pharmacological Aspects of Oxytocin**" will be delivered by Dr. B. Berde (Basle) at 5.30 p.m. on October 6 at University College Hospital Medical School, University Street, W.C.1. Admission free, without ticket.—James Henderson, Academic Registrar. (5863)

UNIVERSITY OF MANCHESTER
Faculty of Medicine

POSTGRADUATE COURSE IN OBSTETRICAL AND GYNAECOLOGICAL PATHOLOGY

A course will be held in the above subject from April 2 to April 14, 1962. Instruction will be given by members of the staff of Manchester University and by lecturers from other centres. A systematic account of the morbid anatomy and histology of the female genital tract will be given. The uses of vaginal cytology will be reviewed. Disorders of female physiology, including those peculiar to pregnancy, will be discussed. An account will be given of maternal and perinatal death. Instruction will be given by lectures, symposia and laboratory demonstrations. Each student will be given a collection of histological sections. The course is designed for those in training either as gynaecologists or pathologists, and will be limited to twenty applicants. The fee will be £15 15s. Further particulars and a detailed syllabus may be obtained from the Dean of Postgraduate Medical Studies, the University, Manchester 13, to whom applications should be sent by January 31, 1962. (5933)

UNIVERSITY OF MANCHESTER
Department of Audiology and Education of the Deaf

NON-RESIDENTIAL COURSE FOR MEDICAL OFFICERS, February 19-23, 1962

It is intended to hold a Course for Medical Officers in this department on February 19-23, 1962. The programme includes the principles and practice of screening tests of hearing of pre-school and school children. The diagnosis of children with impairment of hearing and home guidance of parents of deaf children. Application for this course should be made to the Director of the Department. Fees £4 4s., payable to the Bursar. (5973)

SITUATIONS VACANT

British Dental Association

Librarian Wanted

Applications are invited from chartered librarians for the appointment of Librarian to the British Dental Association. Salary scale £1,200 to £1,700, point of entry will depend upon qualifications, experience and ability. Opportunity to participate in planning library in projected new headquarters premises. Contributory pension scheme. Applications, with names of two referees and details of present post, to the Secretary, British Dental Association, 13 Hill Street, Berkeley Square, London W.1, not later than October 31, 1961. Mark envelopes "Librarian." (6007)

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Young lady, 25-35, required by prominent Pharmaceutical Company. Some library or medical experience is essential, and applicant should be able to type. Hours of duty 9-5.30, five-day week, canteen facilities. Apply, in writing, to Personnel Officer, Roussel Laboratories Ltd., 847 Harrow Road, London N.W.10.

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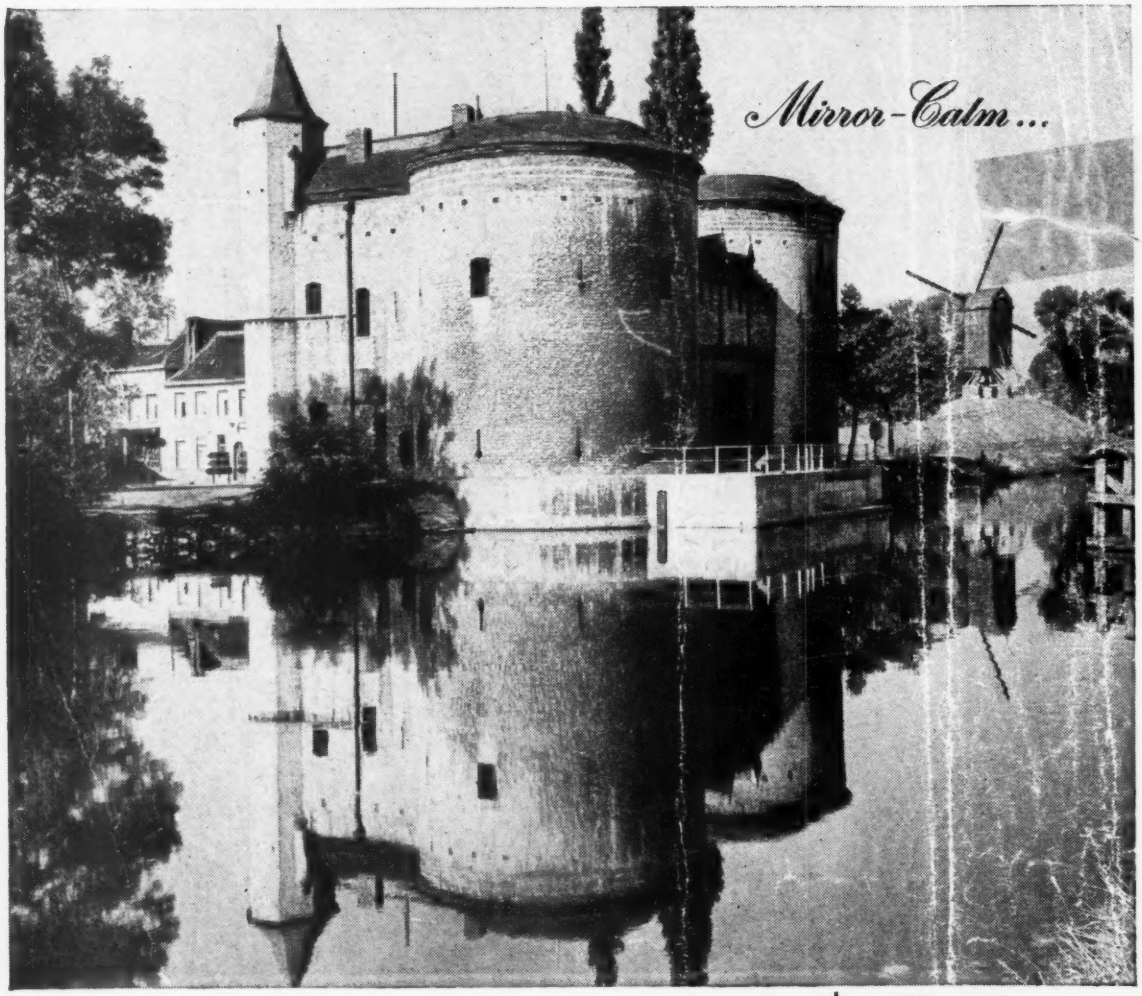

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